

COLLEGE of
ALLIED HEALTH SCIENCES

COLLEGE of
DENTISTRY

COLLEGE of
GRADUATE HEALTH SCIENCES

COLLEGE of
MEDICINE

COLLEGE of
NURSING

COLLEGE of
PHARMACY

2013-2014 Catalog

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CONTENTS

| | |
|---|-----|
| General Information | 5 |
| Academic Policies | 6 |
| Degrees, Majors, and Concentrations Offered | 7 |
| Catalog Function and Organization | 8 |
| Authorization and Accreditation | 10 |
| Interprofessional Education at UTHSC | 10 |
| COLLEGE OF ALLIED HEALTH SCIENCES | 13 |
| General Information | 14 |
| Degrees, Majors, and Concentrations | 16 |
| Admission and Selection | 17 |
| Technology Recommendations | 18 |
| Tuition, Fees, and Expenses | 19 |
| Scholarships and Funding | 19 |
| Policies | 23 |
| Communication | 25 |
| Professionalism | 25 |
| Progress, Promotion, and Graduation | 26 |
| Special Awards and Honors | 30 |
| Audiology and Speech Pathology | 31 |
| Course Descriptions | 51 |
| Clinical Laboratory Sciences | 63 |
| Course Descriptions | 90 |
| Dental Hygiene | 102 |
| Course Descriptions | 115 |
| Health Informatics and Information Management | 119 |
| Course Descriptions | 131 |
| Occupational Therapy | 135 |
| Course Descriptions | 143 |
| Physical Therapy | 147 |
| Course Descriptions | 161 |
| Physician Assistant Studies | 172 |
| Course Descriptions | 183 |
| Faculty List | 189 |
| COLLEGE OF DENTISTRY | 195 |
| General Information | 196 |
| Degrees and Certificates Offered | 198 |
| Academic Calendar | 199 |
| Admission Requirements | 200 |
| Tuition, Fees, and Expenses | 207 |
| Scholarships and Funding | 209 |
| Policies | 211 |
| Communications | 213 |
| Professionalism | 213 |
| Progress, Promotion, and Graduation | 214 |

| | |
|--|-----|
| Special Awards, Honors, and Discipline-Specific Activities | 217 |
| Curriculum | 219 |
| Course Descriptions | 224 |
| Foreign Trained Faculty DDS Program | 243 |
| Course Descriptions | 244 |
| Advanced Dental Education Programs | 246 |
| Continuing Dental Education Programs | 250 |
| Faculty List | 251 |
| COLLEGE OF GRADUATE HEALTH SCIENCES | 254 |
| General Information | 255 |
| Degrees Offered | 256 |
| Academic Calendar | 258 |
| Admission and Selection | 260 |
| Tuition, Fees, and Other Expenses | 263 |
| Scholarships and Funding | 264 |
| Policies | 265 |
| Communication | 267 |
| Professionalism | 268 |
| Progress, Promotion, and Graduation | 268 |
| Special Awards and Honors | 270 |
| Curriculum Summaries and Program-Specific Requirements | 270 |
| Course Descriptions | 314 |
| Faculty List | 366 |
| COLLEGE OF MEDICINE | 372 |
| General Information | 373 |
| Degrees Offered | 376 |
| Academic Calendar | 377 |
| Admission Requirements and Selection | 378 |
| Tuition, Fees, and Expenses | 383 |
| Scholarships and Funding | 384 |
| General Policies and Procedures | 389 |
| Policies and Procedures for Clerkships and Electives | 395 |
| Communication | 398 |
| Professionalism | 398 |
| Progress, Promotion, and Graduation | 400 |
| Mentor/Counseling Systems | 408 |
| Honors and Recognition | 409 |
| Educational Objectives and Competencies | 411 |
| Curriculum Summary and Course Descriptions | 413 |
| Special Programs | 424 |
| Graduate Medical Education | 425 |
| Student Governance | 427 |
| Student Organizations, Interest Groups, and Activities | 429 |
| Interdisciplinary Programs | 433 |
| Lectureships | 435 |
| Additional General Information for Students | 436 |

| | |
|--|-----|
| Faculty List | 438 |
| COLLEGE OF NURSING | 440 |
| General Information | 441 |
| Degrees Offered | 444 |
| Academic Calendar | 445 |
| Admission and Selection | 446 |
| Tuition, Fees, and Expenses | 448 |
| Scholarships and Funding | 449 |
| Policies | 452 |
| Communication | 455 |
| Formal Complaints | 456 |
| Professionalism | 456 |
| Progress, Promotion, and Graduation | 456 |
| Honors and Awards | 460 |
| Curriculum Summary | 461 |
| Course Descriptions | 482 |
| Faculty List | 510 |
| COLLEGE OF PHARMACY | 513 |
| General Information | 514 |
| Degrees Offered | 517 |
| Academic Calendar | 518 |
| Admission and Selection | 519 |
| Tuition, Fees, and Expenses | 524 |
| Scholarships and Funding | 524 |
| Policies | 528 |
| Communication | 535 |
| Professional Conduct | 536 |
| Progress, Promotion, and Graduation | 536 |
| Special Honors and Awards | 539 |
| Curriculum Summary – Professional Degree Program | 542 |
| Course Descriptions | 546 |
| Faculty List | 568 |

GENERAL INFORMATION

The University of Tennessee Health Science Center (UTHSC) was established in Memphis in 1911, dedicated solely to health science education and research. Seed programs in medicine, dentistry and pharmacy – with their origins in the late 1800s - quickly flourished, and within a few short years, new programs were initiated in allied health sciences, graduate health sciences, and nursing. Each of these programs grew to become a college in its own right. In 1963, the UT Graduate School of Medicine in Knoxville became part of the UTHSC, and in 1974, the UT College of Medicine, Chattanooga, likewise joined the institution. The UTHSC is comprised of six colleges – Allied Health Sciences, Dentistry, Graduate Health Sciences, Medicine, Nursing, and Pharmacy – with approximately 2,800 students enrolled in one of 34 health-related degrees. The main campus of the UTHSC is located in Memphis, with additional off-site locations in Knoxville, Chattanooga, Nashville, and on the campus of St. Jude Children's Research Hospital (also located in Memphis). In addition, the UTHSC has formal affiliations with teaching hospitals and clinical facilities across the state to facilitate the clinical education of future health professionals. Finally, the UTHSC offers four degree programs and two graduate certificates through online instruction: the Master of Dental Hygiene; Bachelor of Science in Medical Laboratory Science, the MLT to BSMLS option; the Master of Health Informatics and Information Management; and the Doctor of Nursing Practice, all specialties other than nurse anesthesia; and, a certificate in Health Informatics and Information Management and one in Clinical Research.

Statewide, approximately 1200 residents and fellows receive training (most of whom are in one of 85 programs accredited by the Accreditation Council for Graduate Medical Education) through the Graduate Medical Education Program in Knoxville, Chattanooga, Memphis, Jackson, and Nashville. The clinical practices affiliated with the UTHSC account for more than \$200 million in revenue for the institution. This revenue, coupled with more than \$100 million from the research enterprise, significantly contributes to achieving the mission of the UTHSC to "bring the benefits of the health sciences to the achievement and maintenance of human health, with a focus on the citizens of Tennessee and the region..."

The University of Tennessee Mission Statement

The mission of The University of Tennessee is to provide the people of Tennessee with access to quality higher education, economic development and enhanced quality-of-life opportunities.

UT Health Science Center Mission Statement

The mission of the University of Tennessee Health Science Center is to bring the benefits of the health sciences to the achievement and maintenance of human health, with a focus on the citizens of Tennessee and the region, by pursuing an integrated program of education, research, clinical care, and public service.

Location and Facilities

The UT Health Science Center administrative offices are located on the Memphis Campus, Hyman Building, at 62 South Dunlap, Memphis, TN. The administrative offices for each of the six colleges are also located on the Memphis Campus. Beyond the main campus located in Memphis, UTHSC programs are supported on clinical campuses in Chattanooga, Knoxville, and Nashville as well as in a myriad of health-care-related facilities across Tennessee. For more detailed information regarding UTHSC facilities, refer to *CenterScope* (<https://www.uthsc.edu/centerscope/>).

ACADEMIC POLICIES

All institution-wide policies and procedures guiding the academic programs offered through the UTHSC are available in one of two places: (1) the official student handbook, *CenterScope* (available at <https://www.uthsc.edu/centerscope/>); and, (2) on the UTHSC Academic Affairs website (at <https://academic.uthsc.edu/policy.php>). *CenterScope*, the official student handbook for the institution, provides important information on student government, academic and student support services, technology support services, available health services, financial aid, emergency procedures, institution-wide policies and procedures of particular relevance for students, rights and responsibilities of students, the Student Code of Conduct, the judicial system governing student actions, and a summary of a variety of organizations and opportunities for students. Policies and procedures governing academic, faculty and student affairs are available at the website provided above and are updated routinely. Students are strongly encouraged to review the information provided in *CenterScope*, and in the present catalog, upon acceptance into one of the UTHSC programs. In addition, students are encouraged to review the following policies as they directly relate to successful progression and completion of the degree programs offered at UTHSC.

Academic Appeal

https://academic.uthsc.edu/policy_docs/academic_appeal.php

Attendance Policy

https://academic.uthsc.edu/policy_docs/attendance.php

Awarding of Degrees Policy

https://academic.uthsc.edu/policy_docs/awarding_degrees.php

Accommodations for Religious Beliefs, Practices and Observances

https://academic.uthsc.edu/policy_docs/religious_beliefs.php

Course Drop-Add Policy

https://academic.uthsc.edu/policy_docs/course_drop_add.php

Criminal Background Checks for Matriculating Students

https://academic.uthsc.edu/policy_docs/criminal_background_checks.php

Leave of Absence/Withdrawal Policy

https://academic.uthsc.edu/policy_docs/loa_withdrawal.php

Preventing Student Mistreatment

https://academic.uthsc.edu/policy_docs/preventing_student_mistreatment.php

Student Complaint Procedures

https://academic.uthsc.edu/policy_docs/student_complaints.php

Student Drug and Alcohol Policy

https://academic.uthsc.edu/policy_docs/student_drug_alcohol.php

Student Status during Academic Appeals within a College

https://academic.uthsc.edu/policy_docs/student_status_appeals.php

DEGREES, MAJORS, AND CONCENTRATIONS OFFERED

| DEGREE PROGRAM |
|--|
| COLLEGE OF ALLIED HEALTH SCIENCES |
| Bachelor of Science in Audiology and Speech Pathology¹ (<i>located in Knoxville</i>) |
| Bachelor of Science in Dental Hygiene (BSDH) |
| Bachelor of Science in Medical Laboratory Science (BSMLS) <ul style="list-style-type: none"> Professional-entry option MLT-MLS option (<i>online option</i>) |
| Master of Cytopathology Practice (MCP) |
| Master of Dental Hygiene (MDH; <i>online program</i>) |
| Master of Health Informatics and Information Management (MHIIM; <i>online program</i>) <ul style="list-style-type: none"> Entry-level Post-graduate² |
| Master of Medical Science – Physician Assistant |
| Master of Occupational Therapy (MOT) |
| Master of Science in Audiology (MSAud; <i>located in Knoxville</i>) |
| Master of Science in Clinical Laboratory Sciences (MSCLS) |
| Master of Science in Physical Therapy (MSPT) |
| Master of Science in Speech-Language Pathology (MSSLP; <i>located in Knoxville</i>) |
| Doctor of Audiology (AuD; <i>located in Knoxville</i>) <ul style="list-style-type: none"> Traditional Program Post-professional Program³ |
| Doctor of Physical Therapy (DPT) <ul style="list-style-type: none"> Entry level Transition⁴ |
| Doctor of Science in Physical Therapy Science (ScDPT) |
| Certificate in Health Informatics and Information Management (<i>online program</i>) |
| COLLEGE OF DENTISTRY |
| Doctor of Dental Surgery (DDS) |

¹ Joint degree with University of Tennessee, Knoxville, initiated as of fall, 2013

² Available for working healthcare professionals who already hold a baccalaureate degree in a health-related discipline

³ For students who have already completed a Master of Arts or Master of Science in Audiology

⁴ Available for licensed physical therapists seeking the doctoral degree

| |
|---|
| COLLEGE OF GRADUATE HEALTH SCIENCES |
| Master of Dental Science (MDS) |
| Master of Science in Biomedical Engineering |
| Master of Science in Biomedical Sciences |
| Master of Science in Epidemiology |
| Master of Science in Health Outcomes and Policy Research |
| Master of Science in Pharmaceutical Sciences |
| Master of Science in Pharmacology |
| Doctor of Philosophy in Biomedical Engineering |
| Doctor of Philosophy in Biomedical Sciences |
| Doctor of Philosophy in Health Outcomes and Policy Research |
| Doctor of Philosophy in Nursing Science |
| Doctor of Philosophy in Pharmaceutical Sciences |
| Doctor of Philosophy in Speech and Hearing Science (<i>located in Knoxville</i>) |
| Certificate in Clinical Research (<i>online program</i>) |
| COLLEGE OF MEDICINE |
| Doctor of Medicine (MD) |
| COLLEGE OF NURSING |
| Bachelor of Science in Nursing (BSN) <ul style="list-style-type: none"> • Accelerated BSN • RN-to-BSN |
| Master of Science in Nursing (MSN) <ul style="list-style-type: none"> • Clinical Nurse Leader |
| Doctor of Nursing Practice (DNP; <i>online program for all except nurse anesthesia</i>) |
| COLLEGE OF PHARMACY |
| Doctor of Pharmacy (PharmD) |

CATALOG FUNCTION AND ORGANIZATION

This catalog serves as the official institutional document summarizing all of the educational and training programs offered at the University of Tennessee Health Science Center (UTHSC). This catalog is not to be construed as a contract. The UTHSC reserves the right to change fees, tuition or other charges; add or delete courses; revised academic programs; or alter regulations and requirements as deemed necessary and appropriate. For current information regarding fees and tuition, refer to http://www.uthsc.edu/finance/bursar/colleges_fee_information.php.

This catalog contains separate sections for each of the six colleges within the UTHSC, summarizing their mission and organizational structure, degrees offered, academic calendar, admissions processes, policies and procedures related to their academic programs (including those related to progression and graduation), student organizations, and scholarships and awards available through the college. In addition, curriculum summaries and course descriptions are provided for each program.

General campus information, as well as general policies that are applicable to all students enrolled at the UTHSC, are available in *CenterScope*, the official student handbook for the institution. CenterScope can be found at <https://www.uthsc.edu/centerscope/>.

UTHSC ACADEMIC CALENDAR⁵

| Fall Term | 2013 | 2014 |
|---|---------------|---------------|
| Fall Registration Begins (All) | Mon. Apr 1 | Tue. Apr 1 |
| Last Day to Register Fall 1 | Mon. Jul 1 | Tue. Jul 1 |
| Classes Begin Fall 1 | Mon. Jul 1 | Tue. Jul 1 |
| Last Day to Register Fall 2 | Thu. Aug 1 | Fri. Aug 1 |
| Classes Begin Fall 2 | Thu. Aug 1 | Fri. Aug 1 |
| Last Day to Register fall 3 | Mon. Aug 12 | Tue. Aug 12 |
| Classes Begin Fall 3 | Mon. Aug 12 | Tue. Aug 12 |
| Spring Registration Begins (All) | Fri. Nov 1 | Sat. Nov 1 |
| Grades Due in Registrar's Office by 12 noon for Graduates | Fri. Nov 29 | Fri. Dec 5 |
| Commencement Ceremony/Dec Degree Conferral Date | Fri. Dec 13 | Fri. Dec 12 |
| Last Day of Fall Term | Fri. Dec 20 | Fri. Dec 19 |
| Grades Due in Registrar's Office by 12 noon for All Students | Fri. Dec 20 | Fri. Dec 19 |
| Grades Available to Students | Fri. Dec 20 | Fri. Dec 19 |
| Spring Term | 2014 | 2015 |
| Spring Registration Begins (All) | Fri. Nov 1 | Sat. Nov 1 |
| Last Day to Register Spring 1 & Spring 2 | Thu. Jan 2 | Fri. Jan 2 |
| Spring 1 & Spring 2 Terms begin | Thu. Jan 2 | Fri. Jan 2 |
| Summer Registration Begins (All) | Tue. Apr 1 | Wed. Apr 1 |
| Grades Due in Registrar's Office by 12 noon for May Graduates | Thurs, May 22 | Thurs, May 21 |
| Commencement Ceremony/May Degree Conferral Date | Fri. May 30 | Fri., May 29 |
| Last Day of Spring 1 Term | Fri. Jun 27 | Fri. Jun 26 |
| Grades Due in Registrar's Office for Spring 1 (for non-graduating students) | Fri. Jun 27 | Fri. Jun 26 |
| Spring 1 Grades Available to Students | Fri. Jun 27 | Fri. Jun 26 |
| Last Day of Spring 2 Term | Fri. May 30 | Fri. May 29 |
| Grades Due in Registrar's Office for Spring 2 (for non-graduating students) | Fri. May 30 | Fri. May 29 |
| Spring 2 Grades Available to Students | Fri. May 30 | Fri. May 29 |
| Summer Term | 2014 | 2015 |
| Summer Registration Begins (All) | Tue. Apr 1 | Wed. Apr 1 |
| Last Day to Register for Summer 1 & Summer 2 Terms | Sun. Jun 1 | Mon. Jun 1 |
| Summer 1 & Summer 2 Terms begin | Mon. Jun 2 | Mon. Jun 1 |
| Last Day to Register for Summer 3 | Mon. Jul 7 | Mon. Jul 6 |
| Summer 3 Term begins | Mon. Jul 7 | Mon. Jul 6 |
| Last Day of Summer 2 Term | Fri. July 25 | Fri. Jul 24 |
| Grades Due in Registrar's Office for Summer 2 Term | Fri. Jul 25 | Fri. Jul 24 |
| Grades Available to Students for Summer 2 Term | Fri. Jul 25 | Fri. Jul 24 |
| Last Day of Summer 1 & Summer 3 Terms | Fri. Aug 8 | Fri. Aug 7 |
| Grades Due in Registrar's Office by 12 noon for August Graduates | Fri. Aug 8 | Fri. Aug 7 |
| Grades Due in Registrar's Office for Summer 1 & Summer 3 | Fri. Aug 8 | Fri. Aug 7 |
| Grades Available to Students for Summer 1 & Summer 3 | Fri. Aug 8 | Fri. Aug 7 |
| August Degree Conferral Date | Fri. Aug 15 | Fri. Aug 21 |

⁵ For specific program dates, see each college section below.

AUTHORIZATION AND ACCREDITATION

The University of Tennessee is authorized by the Tennessee Higher Education Commission as a postsecondary institution of higher education (<http://www.state.tn.us/thec/index.html>). Authorization is renewed each year and is based on an evaluation by minimum standards concerning quality of education, ethical business practices, health and safety, and fiscal responsibility.

The University of Tennessee is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award baccalaureate, master's, and doctoral degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of The University of Tennessee. Specific information regarding the professional accreditation of programs offered at UTHSC is provided in each of the college sections of this catalog. A summary of professional accreditation status and agencies is provided below.

UTHSC Professional Program Accreditation Information

| Program | Agency | Last Reviewed | Next Scheduled Review |
|--|---|---------------|-----------------------|
| COLLEGE OF ALLIED HEALTH SCIENCES | | | |
| Audiology and Speech Pathology | Council on Academic Accreditation in Audiology and Speech-Language Pathology | 2006 | 2014 |
| Clinical Laboratory Sciences | National Accrediting Agency for Clinical Laboratory Sciences | 2008 | 2015 |
| Cytotechnology | Commission on Accreditation of Allied Health Education Programs | 2009 | 2016 |
| Dental Hygiene | Commission on Dental Accreditation | 2010 | 2017 |
| Health Informatics and Information Management | Commission on Accreditation for Health Informatics and Information Management Education | 2008 | 2014 |
| Histotechnology | National Accrediting Agency for Clinical Laboratory Sciences | 2012 | 2017 |
| Occupational Therapy | Accreditation Council for Occupational Therapy Education | 2013 | 2020 |
| Physical Therapy | Commission on Accreditation in Physical Therapy Education | 2013 | 2023 |
| Physician Assistant | Accreditation Review Commission on Education for the Physician Assistant | 2013 | 2019 ⁶ |
| COLLEGE OF DENTISTRY | | | |
| Dentistry | Commission on Dental Accreditation | 2010 | 2017 |
| COLLEGE OF MEDICINE | | | |
| Medicine | Liaison Committee on Medical Education | 2008 | 2014 |
| Graduate Med Ed | Accreditation Council for Graduate Medical Education | 2008 | 2016 |

⁶The ARC-PA has granted Accreditation-Provisional status to the UTHSC Physician Assistant program. Accreditation-Provisional is an accreditation status. The status indicates that the plans and resource allocation for the proposed program appear to demonstrate the program's ability to meet the ARC-PA Standards, if fully implemented as planned. Accreditation-Provisional does not ensure any subsequent accreditation status. It is limited to no more than five years from matriculation of the first class.

| Program | Agency | Last Review | Next Scheduled Review |
|----------------------------|---|-------------|-----------------------|
| COLLEGE OF NURSING | | | |
| Nursing (MSN) | Commission on Collegiate Nursing Education | 2009 | 2019 |
| Nursing (DNP) | Commission on Collegiate Nursing Education | 2009 | 2014 |
| Nurse Anesthesia | Council on Accreditation of Nurse Anesthesia Educational Programs | 2009 | 2019 |
| COLLEGE OF PHARMACY | | | |
| Pharmacy | Accreditation Council for Pharmacy Education | 2011 | 2015 |

INTERPROFESSIONAL EDUCATION AT UTHSC

The UTHSC is committed to offering opportunities to students from across colleges and programs to engage in interprofessional education, research and professional development with the expressed purpose of increasing mutual respect and understanding of their unique roles and perspectives, to enhance collaboration and communication, and to improve patient outcomes.

Interprofessional education efforts sponsored at the UTHSC are designed to facilitate the development of core competencies for interprofessional collaborative care as identified by the Interprofessional Education Collaborative, composed of representatives from the American Association of Colleges of Nursing, the American Association of Colleges of Osteopathic Medicine, the American Association of Colleges of Pharmacy, the American Dental Education Association, the Association of American Medical Colleges, and the Association of Schools of Public Health (<http://uthsc.edu/ipecs/documents/IPECReport.pdf>). The UTHSC strives to provide opportunities in classroom settings, simulated environments, and in the community so that students can achieve the identified core competencies prior to graduation:

- Work with individuals of other professions to maintain a climate of mutual respect and shared values;
- Use the knowledge of one's own role and those of other professions to appropriately assess and address the healthcare needs of the patients and populations served;
- Communicate with patients, families, communities, and other health professionals in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of disease; and,
- Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan and deliver patient-/population-centered care that is safe, timely, efficient, effective and equitable.

Interprofessional Education Collaborative Expert Panel (2011). Core competencies for interprofessional collaborative practice: Report of an expert panel. Washington, DC: Interprofessional Education Collaborative.

Interprofessional Courses and Activities

There are a range of opportunities available to students enrolled at the UTHSC to participate in interprofessional education. Many have been integrated into existing program requirements. At the present time three interprofessional courses are offered at UTHSC.

- IPEH 900 Collaboration for Oral Health Care** *Credit: 1 (15-30) Pass/Fail* This course is designed for health professional students in multiple disciplines. Students will learn principles of interprofessional collaboration and care coordination within the context of oral health care. Course content will demonstrate how the quality of oral health care affects general physical and emotional health of individuals. Emphasis will be placed on skill development in prevention of oral disease, oral health maintenance, early disease recognition and referral management.

Interprofessional competency development is the framework to enhance both the scope and quality of care patients receive, as well as improve treatment outcomes. *Mode of delivery:* Seminar and community-clinic based experiences. Hybrid. *Pre-Requisites:* Permission of instructor is required. *Offered:* Spring. *Instructor of Record:* Margaret Hartig (Spring).

IPEH 905 Section 001 Special Topics for Interprofessional Education: Health Care Challenge
Credit: 1 (15-30) Pass/Fail This course is designed to engage students from multiple disciplines in focused activities designed to expand the scope of knowledge beyond that normally provided by a single academic profession and to improve the care that patients receive. The specific topic will vary by term and section, but may include such topics as: community health and engagement, patient safety and quality of care, team approach to the provision of care, communication and leadership skills for interprofessional teams. Students will learn principles of interprofessional collaboration and care coordination within the context of each of the specific topic areas. The course may include online modules, small group seminars, and community- or simulation- based experiences. *Mode of delivery:* Interprofessional team-based learning Hybrid. *Offered:* (not currently offered).

IPEH 905 Section 002 Special Topics for Interprofessional Education: Patient-centered Communication and Health Care Decisions *Credit:* 1 (15-30) Pass/Fail This course is designed to engage students from multiple disciplines in focused activities designed to expand the scope of knowledge beyond that normally provided by a single academic profession and to improve the care that patients receive. The specific topic will vary by term and section, but may include such topics as: community health and engagement, patient safety and quality of care, team approach to the provision of care, communication and leadership skills for interprofessional teams. Students will learn principles of interprofessional collaboration and care coordination within the context of each of the specific topic areas. The course may include online modules, small group seminars, and community- or simulation- based experiences. *Mode of delivery:* Seminar and simulation-based Hybrid. *Offered:* Spring. *Instructor of Record:* Teresa Britt (Spring).

Support for Interprofessional Education

The **Office of Interprofessional Education and Clinical Simulation**, under the leadership of the Director of Interprofessional Education and Clinical Simulation, is committed to fostering education, research and professional development with a focus on enhanced clinical skills and patient safety through the use of simulation. This office supports and facilitates the integration and expansion of clinical simulation into professional degree programs and residency training programs across the UTHSC. For more information: <http://uthsc.edu/ipecs/>.

The **Office of Community Engagement and Interprofessional Initiatives**, under the leadership of the Assistant Vice Chancellor for Community Engagement and Interprofessional Initiatives, Dr. Peg Hartig, facilitates and coordinates interprofessional activities in community settings, including the Health Care Challenge and subsequent implementation efforts. For more information, contact Dr. Hartig at mhartig@uthsc.edu.

Interprofessional Student Council

The recently established Interprofessional Student Council is a student initiative designed to promote opportunities for interdisciplinary collaboration in educational, clinical, research and community settings. The organization seeks to advance interprofessional education at UTHSC and to ensure that students are prepared to deliver patient-centered care and improve patient outcomes as members of interdisciplinary teams.

The Interprofessional Student Council has been officially recognized by the UTHSC Student Government Association Executive Committee. The Assistant Vice Chancellor for Community Engagement and Interprofessional Initiatives serves as the faculty advisor for the Council.



2013-2014 Catalog

COLLEGE *of* ALLIED HEALTH SCIENCES

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Website: www.uthsc.edu/allied/

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GENERAL INFORMATION

Administrative Structure

The College of Allied Health Sciences is led by the Dean of the College and four assistant deans. It is organized into seven (7) departments which are the administrative bases for educational programs in ten allied health disciplines: the Department of Audiology and Speech Pathology, the Department of Clinical Laboratory Sciences, with programs in medical technology/medical laboratory sciences and cytopathology practice (Cytotechnology and Histotechnology); the Department of Dental Hygiene; the Department of Health Informatics and Information Management; the Department of Physical Therapy; the Department of Physician Assistant Studies; and the Department of Occupational Therapy. Each department is led by a chair.

Dean's Biography

Noma Bennett Anderson, PhD, began serving as the dean of the UTHSC College of Allied Health Sciences in the summer of 2010. She is the immediate past chair in the Department of Communication Sciences and Disorders at Florida International University (FIU) in Miami. She was previously a dean and professor in the School of Health Sciences at FIU for five years. Prior to that, Dr. Anderson was a chair for 10 years and on the faculty for 16 years in the Department of Communication Sciences and Disorders at Howard University in Washington, D.C. She was on the board of directors for the American Speech-Language-Hearing Association for three years and served as president in 2007. Dr. Anderson holds a PhD in Speech-Language Pathology from the University of Pittsburgh in Pittsburgh, PA, and an MS in Speech Pathology from Emerson College in Boston, MA.

History

The College of Allied Health Sciences was founded as the College of Community and Allied Health Professions in 1972 to provide an administrative base for allied health programs from a variety of departments and institutions. Initial departments included Clinical Laboratory Sciences (which included programs in medical technology, cytotechnology, histotechnology and blood banking) then within the College of Medicine's Department of Pathology; dental hygiene, then in the College of Dentistry; medical record administration (now health informatics and information management) then a part of Baptist Memorial Hospital; physical therapy, then within the College of Medicine's Department of Medicine; and radiologic technology, then within the College of Medicine's Department of Radiology. Start-up funding for the College came from a Veterans Administration Grant. The Departments of Occupational Therapy and Audiology and Speech Pathology from the University of Tennessee Knoxville were later added. The blood banking program was discontinued, and the Department of Radiologic Technology and the histotechnology program were transferred to Southwest Tennessee Community College. The physician assistant studies program was added in 2012.

Mission

The mission of the College of Allied Health Sciences shall be consistent with the mission of the University of Tennessee that is, to provide the people of Tennessee with access to quality higher education, economic development and enhanced quality-of-life opportunities. The UTHSC mission is to bring the benefits of the health sciences to the achievement and maintenance of human health, with a focus on the citizens of Tennessee and the region, by pursuing an integrated program of education, research, clinical care, and public services. The College will educate competent health professionals to provide services that address the health care needs of the people of Tennessee, provide leadership in the respective allied health professions, contribute to the knowledge bases of the respective allied health disciplines and promote lifelong learning through continuing education.

Organization of Faculty

All appointed faculty in the College of Allied Health Sciences are members of the Allied Health Faculty Organization (AHFO). Officers, including a president, a president-elect, and a recording secretary are elected by the members. The Organization meets once every three months or more often as business may dictate. It serves as an advisory group to the dean and provides faculty input on curriculum, other items of interest to the faculty and the dean as well as providing educational seminars of interest to allied health faculty.

The faculty of the College of Allied Health Sciences possesses the advanced experiential and academic credentials required in a major health sciences center. In addition to being accomplished teachers and scholars, faculty in the College of Allied Health Sciences have a tradition of distinguished professional leadership at the regional and national levels. Scientists and clinical faculty from the Colleges of Medicine, Dentistry, Graduate Health Sciences, Nursing, and Pharmacy enrich the instructional environment for allied health students. Volunteer faculty and preceptors from a wide variety of health care institutions contribute a real life perspective through their mentorship of students enrolled in the clinical educational experiences offered by the College. Faculty members consistently update their knowledge by engaging in scholarly activity and clinical service in areas related to the courses they teach.

Location and Facilities

The College's administrative offices as well as those of most of the departments are located on the sixth floor of the 930 Madison Building on the Memphis campus of the UT Health Science Center. The Department of Health Informatics and Information Management offices and the Occupational Therapy student classroom and laboratory are located in the 920 Madison Building. Most student classes and laboratories are held in the UTHSC General Education Building. The Department of Occupational Therapy has a student pediatrics laboratory in the Boling Center for Developmental Disabilities located on the Memphis campus. The Department of Physician Assistant Studies classroom, laboratory, and faculty officers are located in the 66 N. Pauline Building. The Department of Audiology and Speech Pathology is located on the campus of the University of Tennessee, Knoxville.

Alumni Affairs

Graduates of the College officially become members of the University of Tennessee Alumni Association upon graduation and receive publications of the Office of Alumni Affairs. Alumni also receive the College alumni newsletter, The Allied Health Update.

Accreditation

All programs are accredited by the appropriate accrediting body. The programs in Audiology and Speech Pathology are accredited by the Council on Academic Accreditation in Audiology and Speech Pathology. The Program in Cytopathology Practice (leading to a career opportunity in cytotechnology) is accredited by the Commission on Accreditation of Allied Health Education Programs; the Program in Dental Hygiene is accredited by the Commission on Dental Accreditation; the entry-level and post-graduate programs in Health Informatics and Information Management are accredited by the Commission on Accreditation of Health Informatics and Information Management Education; the Programs in Medical Laboratory Science and Cytopathology Practice (leading to a career opportunity in Histotechnology) are accredited by the National Accrediting Agency for Clinical Laboratory Sciences; the Program in Occupational Therapy is accredited by the Accreditation Council for Occupational Therapy Education; the Program in Physician Assistant Studies is provisionally accredited by the Accreditation Review Commission on Education for the Physician Assistant; and the Program in Physical Therapy is accredited by the Commission on Accreditation in Physical Therapy Education. Programs in the college have a long and distinguished accreditation history, several being among the oldest of their kind in the nation. Faculty and administrators from the college provide service to these specialized accrediting bodies as members and surveyors.

Please see additional accreditation information in the individual programmatic sections of this catalog. The College is an institutional member of the Association of Schools of Allied Health Professions.

Program Modification Statement

The faculty of the College of Allied Health Sciences reserves the right to make changes in curriculum, policy and procedures when, in its judgment, such changes are in best interest of students and the College of Allied Health Sciences. Ordinarily, a student may expect to receive a degree by meeting the requirements of the curriculum as specified in the catalog currently in force when they first enter the college, or in any one subsequent catalog published while they are a student. However, the College of Allied Health Sciences is not obligated to fulfill this expectation, or to offer in any particular year, a course listed in the catalog.

DEGREES, MAJORS, AND CONCENTRATIONS

| DEGREE | MAJOR/CONCENTRATION | DESIGNATION | CONCENTRATION |
|----------------------------|---|---------------------|---|
| Bachelor of Science | Audiology & Speech Pathology | BSASP ⁷ | |
| | Dental Hygiene | BSDH | |
| | Medical Laboratory Science | BSMLS ⁸ | |
| Master | Cytopathology Practice | MCP | |
| | Dental Hygiene | MDH ⁹ | |
| | Health Informatics & Information Management | MHIIM ¹⁰ | Entry-level or Post-graduate |
| Master of Science | Medical Science – Physician Assistant | MMSPA | |
| | Occupational Therapy | MOT | |
| | Audiology | MSAud ¹¹ | |
| | Clinical Laboratory Sciences | MSCLS | Advanced Practice or Post-Professional |
| | Physical Therapy | MSPT | Musculoskeletal or Neurological |
| Doctor | Speech-Language Pathology | MSSLP | Aural Re/Habilitation |
| | Doctor of Audiology | AuD | Aural Re/Habilitation |
| | Doctor of Physical Therapy | DPT | Entry-level or Transition ¹² |
| Doctor of Science | Physical Therapy Science | ScDPT | |

⁷ Joint degree offered in collaboration with Univ of TN, Knoxville and offered in Knoxville, TN

⁸ The MLT-to-MLS option is an online program

⁹ Online degree program

¹⁰ Online degree program

¹¹ The MSAud, MSSLP, and AuD programs are all offered in Knoxville, TN

¹² Hybrid program, including both face-to-face and online instruction

ADMISSION AND SELECTION

College Admission Policy

The College of Allied Health Sciences conducts, through its programmatic admissions committees, appropriate and timely review of student applications and supporting credentials. The resulting decisions and recommendations reflect high academic standards and observance of applicable legal statutes, as well as policies of the University of Tennessee System, the University of Tennessee Health Science Center, the College of Allied Health Sciences, and the individual programs. Admissions procedures, processes and recommendations afford equal educational opportunity to all applicants without regard to race, color, national origin, sex, religion, age, handicap or veteran status. Details of program admission criteria may be found in the departmental sections of this catalog and may be accessed through the college's website at: <http://www.uthsc.edu/allied/>.

Student Health and Professional Liability Insurance

All allied health science students are required to have health care and medical insurance while enrolled in the College. All students in the College are also required to purchase professional liability insurance through the University at a nominal cost payable at registration time.

Criminal Background Checks

All students are required to have a background check prior to enrolling in the programs in the College of Allied Health Sciences. Students should be aware that additional criminal background checks along with drug screens and fingerprinting may be required by clinical sites, certification committees and state licensure boards. Students are responsible for these costs. Information discovered in criminal background searches may delay or prevent enrollment, clinical education opportunities, graduation and entry into the profession. Failure to comply may prohibit students from entering programs, completing clinical assignments or graduating from the program. If a student needs further information about criminal background checks, the student should contact their department chair or program director.

Student Status Options

Due to the variation in programs in the College, the policies related to student status such as Advanced Standing and Transfer of Credits may be found in each program section of the catalog.

Undergraduate students who are enrolled in 12 hours or more are classified as full-time. Students who are enrolled in less than 12 hours are classified as part-time. Graduate students who are enrolled in 9 hours or more are classified as full-time. Students who are enrolled in less than 9 hours are classified as part-time. Each program determines whether or not a part-time option is available to students.

Technical Standards

The Committees on Admissions for the professional programs of the College maintain that certain minimal technical standards must be present in applicants.

Applicants to programs of the College must possess the following general qualities: critical thinking, sound judgment, emotional stability and maturity, empathy, physical and mental stamina, and the ability to learn and function in a wide variety of didactic and clinical settings. Graduates of the College must have the minimal skills, essential functions and knowledge to function in a broad variety of clinical settings, while rendering a wide spectrum of healthcare services.

The faculty of the CAHS have a responsibility for the welfare of the patients treated or otherwise affected by students enrolled in the College as well as for the educational welfare of its students relative to the educational programs of the College. Candidates for the Bachelor of Science degree, as well as those enrolled in any graduate education programs of the College, must have the following essentials: motor skills; sensory/observational skills; communication skills; intellectual-conceptual, integrative, and quantitative abilities; and behavioral/social skills and professionalism.

The Committees on Admissions, in accordance with Section 504 of the 1973 Vocational Rehabilitation Act and the Americans with Disabilities Act (PL101-336), have established the aforementioned essential functions of students in the educational programs offered by the CAHS.

These Committees on Admissions will consider for admission applicants who demonstrate the ability to perform, or to learn to perform, the essential skills listed in this document. The College must ensure that patients are not placed in jeopardy by students with impaired intellectual, physical or emotional functions. Students will be judged not only on their scholastic accomplishments, but also on their physical and emotional capacities to meet the full requirements of the College's curricula and to graduate as skilled and effective practitioners.

Upon admission, a student who discloses a properly certified disability will receive reasonable accommodation but must be able to perform the essential functions of the curriculum and meet the standards described herein for the program in which the student is enrolled. Services and accommodations for students with disabilities are coordinated through the office of Student Academic Support Services at 8 S. Dunlap, Room BB9, General Education Building. For additional information and assistance in requesting accommodations please refer to the following website: <http://www.uthsc.edu/sass/>.

In addition to the general standards described above, each professional program requires additional specific standards as described in the program-specific section of this catalog.

TECHNOLOGY RECOMMENDATIONS

These are the general technology recommendation for all students enrolled in one of the programs in the college.

Minimum Hardware Requirements

Processor: Intel i5 processor or higher

Processor Speed: 2.5GHz or faster

Operating System: Windows 7 Professional

RAM/Memory: at least 4 GB

Hard Disk Capacity: at least 500GB

Monitor: At least 14"

Multimedia Capabilities: We will require a speaker and microphone (headset or built-in) and webcam (built-in or USB).

Minimum Software Requirements

Microsoft Office 2010 Professional Plus or Office Professional 2013 which includes the following programs:

- Word for word processing
- Excel for spreadsheets
- PowerPoint for presentations
- Access for database management
- Outlook for email, calendar, contact management, and tasks

Antivirus Software

Recommend Microsoft Security Essentials. This can be downloaded for free at <http://www.uthsc.edu/antivirus/students.php>

Internet Browser Recommendations

Not recommend using Internet Explorer 9 or above with Blackboard. Currently, we recommend using the latest version of Firefox which can be downloaded here: <http://www.mozilla.org/en-US/firefox/new>
Reader for PDF documents

The latest version of Adobe Reader is available for free at <http://get.adobe.com/reader>.

Movie/Audio Player

The latest version of QuickTime or Windows Media Player should do. Windows Media Player should already be on your machine if it is windows. QuickTime can be downloaded at <http://www.apple.com/quicktime/download>

Minimum Internet Service Provider Requirements

Access to the Internet via one of the following methods:

- DSL
- Cable modem
- Satellite

TUITION, FEES, AND EXPENSES

Information about tuition and fees for the individual programs in the College of Allied Health Sciences may be found at http://www.uthsc.edu/finance/bursar/pdfs/AHS_Costs_Financial_Aid.pdf with additional information regarding estimated cost of attendance at <http://www.uthsc.edu/finaid/AlliedHealth.php>.

Required Textbooks

Students may access the required books for any and all the courses in their professional program by going to the following link to the Bookstore on the UTHSC website:
<http://www.uthsc.edu/purchasing/bookstore.php>

A customized textbook list can be generated for each student by entering the following information on the website page: program/department, term and course numbers.

Additional Expenses

Additional information regarding required equipment, tools, computers, or other anticipated expenses is outlined in the program-specific section of this catalog.

SCHOLARSHIPS AND FUNDING

Financial Aid

Students may access information regarding Financial Aid, including information on applying for financial aid, available scholarships, financial literacy counseling, and general student loan information at <http://www.uthsc.edu/finaid/>.

Scholarships

There are a number of college wide and program specific scholarships available to students in the College of Allied Health Sciences. A list of scholarship descriptions and eligibility criteria is provided but students should refer to program sections of the catalog for specific information about applying for these scholarships

Chancellor's Diversity Scholarship

Each program in the college offers at least one scholarship based on diversity criteria. Amounts are based upon available funds and funds do not cover out-of-state tuition. Recipients are selected by each program. The Chancellor's Diversity scholarship was created to provide opportunities and funding for minority students to receive financial support to begin or continue their academic progression at UTHSC. Criteria include:

1. Fully meeting the minimum academic standards for the program.
2. Minimum GPA of 3.0 on a 4.0 scale.
3. Providing financial aid with all required documentation to receive the award (FAFSA, etc.)

This is an achievement award and is not need based so the EFC (expected family contribution) is not a factor in the awarding of this scholarship.

Elizabeth Club

Traditionally has been one scholarship per year for students entering in DH, MT and DPT, with selection preference being given to Tennessee residents. For female students only, can be awarded later in the academic year to permit better selection of recipients. Financial Aid Office determines the amount. Recipients are selected by programs.

Ann Bell

For medical technology students, renewable for second year. Program selects student and amount which is based upon available funds as determined by department official. Selection criteria include successful academic performance, application date, and demonstrated interest in the profession.

Ann Craig Scholarship in Physical Therapy

For students accepted for admission into the DPT program. Scholarship monies are provided for all three years of enrollment, as long as the recipient continues to demonstrate academic achievement, leadership potential, and commitment to the art and science of the Physical Therapy profession. The scholarship is available only to first generation college applicants. Department selects student and amount which is based upon available funds as determined by department official.

Erickson-Rube

For cytopathology students. The program scholarship committee selects one or more students for the award. Selection criteria include financial need, merit and dedication to the profession. The amount awarded and the number of awards depends on available funds as determined by the committee.

Mary Alice Gaston

For dental hygiene students. Time of selection is variable. Program selects student and amount which is based upon available funds as determined by department official. The primary criterion is demonstrated leadership.

Elam

For dental hygiene and medical technology students. Programs select students. Financial Aid Office provides amount of scholarship. Students are considered for this award who have demonstrated exceptional scholastic ability, leadership, and dedication to a career as a health care professional.

Lori Malloy

For all accepted and enrolled MOT students. Program selects the student and amount which is based upon available funds as determined by department official. The recipient is selected on the basis of financial need and dedication to the profession. Traditionally, selection is made from the MOTII class and it may be awarded at any time in the student's matriculation.

Barbara Aneil Young

For dental hygiene students. Program will select the student and amount which is based upon available funds as determined by department official. This scholarship may be awarded to an entering junior and/or a rising senior DH student. The criterion for this award is worthy young women from the state of TN, presenting with financial need.

UTNAA Scholarship (UT National Alumni Association)

Nominations are requested in April and due May 1. All programs are encouraged to nominate incoming students. College committee selects one student and one or two alternates in rank order in case selected student declines. Assistant/associate dean for student affairs forwards the selected student(s) to the Office of Financial Aid who then notifies the Alumni Association.

PT Alumni and Friends Scholarship

For students accepted or currently enrolled into the DPT program. Department selects recipient(s) and amount. Criteria for the scholarship include financial need, successful academic performance and pursuit of a non-traditional route for entry into the program. Although the scholarship is awarded for only one year, previous recipients are given preference of selection in subsequent years.

Dental Hygiene Update Scholarship

For DH students. Program selects student and amount is based upon income from the annual Dental Hygiene Update Program. Selection time is variable. The primary criteria are scholarship includes need and the potential for contributions to the profession. This scholarship is traditionally awarded to a rising senior student.

Ayers Scholarship

For a student who is enrolled in the third year of the DPT program. Criteria for the scholarship include successful academic performance, and demonstration of exceptional interpersonal skills with classmates, faculty and patients. Department selects student enrolled in the 3rd year of the DPT Program. The amount is based upon available funds as determined by department official. Financial need may be considered.

Davidson Scholarship

Department selects recipient(s) and amount. Criteria for the scholarship include financial need, successful academic performance and pursuit of a major in Audiology unless all qualified students in audiology are receiving financial support. Students who held the Davidson scholarship in previous years(s) shall be given preference.

Annette Brown Memorial Downtown SERTOMA Club Endowment.

ASP department selects recipient(s) and amount. Criteria for the scholarship include financial need, successful academic performance and students who held this scholarship in previous year(s) shall be given preference.

Harold A. Luper Fund/Scholarship

ASP department selects recipient(s) and amount. Criteria for the scholarship includes financial need and be a graduate student in ASP.

Sol Adler Memorial Fund

ASP department selects recipient(s) and amount. Criteria for the scholarship include financial need.

First preference is given to PhD students majoring in one of the following areas:

1. Language disorders in children
2. Multicultural aspects of language and language disorders
3. Clinical service delivery to children in unique populations

Secondary preference to master's students in the same areas of study listed above.

Third preference to undergraduates in Audiology and Speech Pathology who have demonstrated satisfactory academic performance.

Students who have held the scholarship in the past shall be given preference in subsequent years.

Jerry Carney/ASHA Leadership Scholarship Endowment

ASP department selects recipient(s) and amount. Criteria for the scholarship include successful academic performance. Financial need (in the broadest sense) may be a factor. Recipients from previous years are eligible for selection in subsequent years.

Mary A. Jones

ASP department selects recipient(s) and amount. Criteria for the scholarship include financial need and successful academic performance.

Deborah King Fellowship Fund

ASP department selects recipient(s) and amount. Criteria for the scholarship includes financial need, must be a graduate student majoring in speech pathology and demonstrate successful academic performance. Previous year recipients shall be given preference. Available to students living within the jurisdiction of Knoxville, Scottish Rite (Counties: Anderson, Blount, Campbell, Carter, Claiborne, Cocke, Grainger, Greene, Hamblen, Hancock, Hawkins, Jefferson, Johnson, Knox, Loudon, Monroe, Morgan, Roane, Scott, Sevier, Sullivan, Unicoi, Union and Washington)

Ethel Piper Scholarship

ASP department selects recipient(s) and amount. Criteria for the scholarship include financial need (in the broadest sense), successful academic performance, preparation to children with communication disorders upon graduation, and a requirement to assist in departmental activities as assigned by the Head of the Department up to a maximum of five hours per week. Previous year recipients shall be given preference.

Bill and Dot King/Estep Fellowship

ASP department selects recipient(s) and amount. Criteria for the scholarship include financial need and demonstrated successful academic performance. Skills and qualities consistent with successful speech language pathology professionals, leadership, problem solving and enthusiastic dedication to the work are considered as well. Previous year recipients shall be given preference. Available to speech pathology students.

Audiology Scholarship Fund

Scholarship selection committee in ASP in consultation with the department chair will select the recipient(s). Criteria include graduate student in audiology, successful academic performance, financial need, evidence of high moral character, dedication to work, willingness to conform to the rules of student conduct. Previous year recipients are given preference.

ASP 100 Club

The purpose of this account is for scholarship awards for students based on criteria as determined by the department. Preference for the award is given to graduate students. The department chair should be the primary person responsible for the account.

Silverstein Endowment Fund

ASP department selects recipient(s) and amount. Awards should be used to benefit students in ASP by supporting student travel to professional conferences and to recognize outstanding clinical students, who in their first year of graduate school, have worked with children.

Dr. Nancy J. Williams endowed scholarship

The purpose of this scholarship is to support a MDH student demonstrating highly successful academic performance with a GPA of no less than 3.25 or if they are currently enrolled, six credit hours must be completed with a GPA of 3.75. Applicants must also demonstrate professional behavior and commitment to the field of dental hygiene education.

Josephine Circle

This award is given by the Josephine Circle. The organization is devoted exclusively to the higher education of deserving young men and women. The primary criteria are successful academic performance, financial need, evidence of high moral character, and dedication to a career in dental hygiene.

Loans

Allied Health Student Emergency Loan

Any allied health student with a documented need for a short-term loan may apply for assistance from the Allied Health Student Emergency Loan Fund. Loans must be repaid within 30 days with repayment, including interest, calculated at six percent per annum. The maximum loan amount that can be authorized is determined by funds available in the account at the time the request is submitted. The application for an emergency student loan is available through the Office of the Bursar (http://www.uthsc.edu/finance/bursar/loan_information.php).

POLICIES

Attendance Requirement

Because of the intensity of all educational programs in the College of Allied Health Sciences, students should not miss any planned learning experience except under the most unusual circumstances. Students are, therefore, required to participate in all planned learning experiences including lectures, laboratories, clinical assignments, discussion boards etc. The department chair, program director, or appropriate faculty member in each program will inform students in writing of the consequences of failure to adhere to this general college requirement.

Student Identification and Dress Code

All students are required to wear the UT identification badges issued during registration. Such cards are to be worn in a visible fashion and must be presented to UT police officers, administration, or faculty upon request. If a student's identification badge is lost or misplaced, a new one must be acquired from the Campus Police office for a fee. Students, upon graduation, may retain their ID badge since it contains an expiration date. Students, upon withdrawal, must return their ID badge to the Campus Police office. Students are expected to adhere to the dress code of the program in which they are enrolled. Dress requirements are explained during each program's orientation.

Grades

Each program establishes and follows a grading policy that is appropriate for the academic level, intensity and professional expectations for program graduates. Please refer to the specific program section for the assignment of grades. However, refer to this college policy for the awarding of grades when students drop courses.

Recording the withdrawal will be in accordance with the following:

- For those courses in which $\leq 50\%$ of the total points have been completed, the student will receive a “W.”
- For those courses in which 51 - 70% of the total points have been completed, the student will receive either “WP” or “WF” depending on his/her standing in the course at the time of withdrawal.
- For those courses in which $>70\%$ of the total points have been completed, the student (if no compelling extenuating circumstances exist) will receive zero credit for those assignments that the student fails to complete, and the zero credit will be incorporated into the final grade calculation.
- Students with compelling extenuating circumstances may appeal to the Program Progress and Promotions committee for an exception to this policy. Cases will be considered on an individual basis.

When students are unable to complete coursework by the end of a term, the Program Progress and Promotions committee may decide to allow the student to earn a grade of incomplete (“I”) for the missed coursework. The Program Progress and Promotions committee will determine what impact the missed coursework will have on the student’s academic progress and communicate this to the Assistant Dean of Student Affairs for notification of the student. Incompletes may impact the student’s financial aid eligibility.

Dropping/Adding Courses

A student enrolled in any of the programs in the CAHS may officially withdraw from the program at any time by submitting a written request to the chair or program director. Programs determine whether or not students are allowed to withdraw from individual courses in the program. Students should reference the UTHSC Course Drop-Add Policy for information regarding the effect of dropping a course on tuition refunds and grade recorded for dropped courses.

Auditing a Course

Students are not typically allowed to audit courses in the CAHS. Student wishing to audit courses must obtain permission from the department chair for the program. Students that are appealing an academic dismissal can attend classes during the appeal process. Students should refer to the UTHSC Procedure for Changing Student Status during Academic Appeals/Review policy for information regarding the procedure and effects on eligibility for federal financial aid

Leave of Absence/Withdrawal Policy

The CAHS has a policy of mandatory attendance and therefore, no excused absences. The CAHS understands that absences may be necessary during a portion of an academic program, but students should be aware that there may be limited suitable options for making up of missed assignments/activities even with short term absences, given the intensity, complexity and fast pace of UTHSC programs.

Valid absences are determined at the program level. A student should follow the program's procedure for informing the Program Director/faculty about the absence. Examples of valid absences include, but are not limited to; illness/injuries, funerals and family emergencies. The validity of short term (1 to 5 working days) absences are determined by the Program Director who may request documentation that supports the conditions of the absence. The validity of longer term (>5 working days) absences are decided by the Program Director usually in consultation with the program's progress and promotions committee. Longer term absences must consider the academic impact to the student.

1. Students are required to make up all course work for absences determined to be valid. The student may not be allowed to make up course work if the absence was ruled invalid.
2. If a student will be absent more than 10 working days, the Program Director in consultation with the Progress and Promotions Committee, may recommend that the student withdraw and return sometime in the future. The future for lock-step is generally the following year at the start of a term. The student who withdraws with
3. the expectation of returning, must follow the written conditions outlined by the program, including informing the program that their return is imminent.
4. A Change of Status form must be completed by the Program at the time of the leave of absence.
5. Special considerations will be given to veterans requesting return after completing military service.
6. Any leave of absence requires that the student consult with the Office of Financial Aid regarding financial obligations/liabilities.

Minimum Number of Students per Course

A minimum of three students are required to be enrolled in any post-graduate course or the course may be cancelled.

COMMUNICATION

The official method of communication between students and their respective departments, programs or the dean's office is through the UTHSC email system. Students must check their email at least once each day to avoid missing vital information.

Communication Practices for Online Course

Email, web-conferences, and phone conference are the primary modes of communication for instructor and students enrolled in online courses. Email is conducted using the official UTHSC email system. Courses that are taught online or via a hybrid format provide course instruction through a Blackboard Platform managed by UTHSC. To ensure online privacy, students must use their unique login and netID to access their email accounts and the BlackBoard site. Student's personal information is not shared with anyone outside of the college unless specified by the student in accordance with all FERPA guidelines. Students can only access courses in which they are enrolled. Within the Blackboard course site, students access the course syllabus, link to campus resources, access course assignments including readings, recorded lectures, videostreaming, tests and assessments, grades and other classroom materials. Students participate in discussion boards and chats through Blackboard. Students submit assignments and email faculty through the Blackboard system. Additional modes of communication among faculty and students include Adobe Connect and video chat.

PROFESSIONALISM

It is the expectation of all students enrolled at the UTHSC to maintain the high ethical and professional standards of the various disciplines of the health professions. Failure to do so may subject a student to suspension or other appropriate remedial action by the University as outlined in *CenterScope*, Maintenance of Ethical and Professional Standards of the Health Professions (<https://www.uthsc.edu/centerscope/>).

PROGRESS, PROMOTION, AND GRADUATION

Students must achieve satisfactory academic progress in order to receive federal financial aid. The Office of Financial Aid satisfactory academic progress standards mirror the academic progress policies of each individual college. A student who is found to not be making academic progress by their college is not eligible for federal financial aid. This rule may also apply to state, institutional, and private funds. For more information refer to *CenterScope*, Satisfactory Academic Progress, (<https://www.uthsc.edu/centerscope/>).

The following guidelines pertain to full-time as well as part-time students. Promotion is the process by which a student progresses through an academic program and graduates. Promotion and graduation require positive action by the Dean based upon recommendations of each program's progress and promotion committee. While progress and promotion committees generally act at the end of a term, they can act any time a student is deemed to be making inadequate progress toward degree objectives and/or is demonstrating unacceptable performance in the key areas of personal and professional behavior. Committee recommendations regarding a particular student are based upon input by each faculty member or course director who has teaching responsibility for that student during a given instructional period.

Committee Guidelines. All committees follow specific guidelines related to required student performance and the kinds of recommended actions that may be made.

1. Student Performance

- a. (1) **For all undergraduate entry-level programs:** Students must attain a term grade point average of 2.0 to progress to the subsequent term or to graduate. Any student who earns a grade of "D" (indicating marginal progress), "F" (failing), or "I" (incomplete) is reviewed in depth by the appropriate committee.

(2) **For graduate entry-level programs:** Students must attain the minimum term grade point average designated by the specific degree program to progress to the subsequent term or to graduate. Students may be expected to complete all courses with a grade of "B" or higher and may be placed on probation or dismissed for earning a grade of "C" or lower in one or more courses as stipulated by the specific degree program. Students must demonstrate a minimal competency level, as determined by the faculty and made known to students in advance. Students not reaching minimal competency may be required by the faculty to complete additional exams and/or class assignments until they reach the required minimal competence, or final course grades are recorded. The decision to permit this option is handled on a case-by-case basis by the appropriate progress and promotion committee. An explanation of the calculation of the final grade will be made known to students in advance.
- b. Students enrolled in **post-professional programs** must complete all courses with grades of "B" or above in core and clinical concentration courses, and "C" or above in other courses. No more than two grades of "C" may be applied toward a post-professional graduate degree. Students must maintain an overall grade point average of 3.0 ("B"). A student may be dismissed from the program upon earning more than two (2) grades of "C", or a grade below "C." Grades in courses earned at another university will not be computed in the cumulative GPA.
- c. A student must demonstrate satisfactory personal and professional behavior deemed by faculty as being necessary for academic success and competency in clinical practice. Such areas may include ability to establish rapport with clients, ability to work effectively with members of the health care team, dependability, judgment, integrity, initiative, and interest.

- d. Students must meet the College and program technical standards to continue in the various curricula and graduate. Copies of these standards are provided to students by their respective programs.

2. **Recommended actions:**

Progress and Promotion Committees may recommend any of the following actions to the Assistant/Associate Dean for Student or Academic Affairs:

a. **Promotion**

Promotion of the student to the subsequent term or to graduation.

b. **Academic Probation**

- i. *Entry-level undergraduate students* - Probation may result from a student's earning a cumulative grade point average of less than 2.0 during the term, from earning a grade of "D" in any course, or from failure to meet stated objectives associated with professional behavior or technical standards. Committee recommendations must include delineation of specific conditions that must be met for removal of the student from academic probation, and the time by which such conditions must be met.
- ii. *Entry-level graduate students* – Probation may result from a student earning a cumulative grade point average that falls below the minimum required by the specific degree program or by earning a grade of "C" or lower in one or more courses as stipulated by the specific degree program or by failing to meet expected levels of clinical competencies or professional behaviors.
- iii. *Post-professional students* – Students enrolled in post-professional programs must earn a grade of "C" or higher in all course work and maintain a cumulative grade point average of 3.0 or higher. Any student earning a grade of "D" or "F" in any course, or falling below a 3.0 cumulative grade point average will be dismissed from the program of study.

c. **Dismissal**

Dismissal may result from any of the following.

- i. *Entry-level students* - A student earning a grade of "F" in any course, earning a grade of "D" in two or more courses;
- ii. *Post-professional students* – A student earning a grade of "D" or "F" in any course;
- iii. Failing to meet the minimum grade point average requirement as stipulated by the specific degree program.
- iv. Failing to meet the requirements of a course(s) as stipulated in the course syllabus;
- v. Demonstrating serious deficiencies in personal or professional behavior;
- vi. Failing to meet technical standards;
- vii. Failing to meet stipulated conditions for removal of academic probation within the designated time period.

d. **Repeating Curriculum**

Recommending that a student repeat all or part of the curriculum may be made only if **all** of the following conditions are present:

- i. the presence of specific nonacademic circumstance(s) judged by the committee as having an adverse effect on the student's academic performance;
- ii. Committee judgment that the identified specific circumstance(s) show probability of resolution within a reasonable period of time; and,
- iii. Committee judgment that resolution of the identified circumstance(s) will subsequently result in satisfactory performance by the student.

Notification of Student

Any student who is dismissed from a program or placed on probation is notified by email (through the UTHSC-issued email address for the student) from the Assistant/Associate Dean for Student Affairs. A student placed on academic probation is given a written statement of conditions that must be met for removal of academic probation, and the time period allowed.

Appeal Process

Reconsideration of Progress and Promotions Committee Decisions

A student has the right to request reconsideration before an ad hoc appeals committee in the event of a negative recommendation. Such a request must be submitted in writing and received by the Dean within five (5) calendar days of receipt of notification of the intended action. The student will meet with the *ad hoc* committee and may bring any person(s), excluding legal counsel, whom the student believes can contribute to the presentation. After hearing all persons who appear on behalf of the student or in support of the action taken by the progress and promotion committee, the committee sends a recommendation for resolution of the appeal along with supporting documentation to the Dean. The Dean will notify the student in writing of the final decision made regarding the appeal. The communication from the Dean will also outline any actions necessary for the student to take (e.g. the terms of probation.).

The ad hoc appeals committee is chaired by the Assistant/Associate Dean for Student Affairs who also appoints the committee composed of faculty from the college. If the original negative recommendation made by the Progress and Promotions Committee is sustained by the Dean, the student has the right of appeal to the Chancellor. Such an appeal must be in writing and received by the Chancellor within five (5) calendar days of receipt of notification from the Dean. The decision by the Chancellor is final.

During the appeal process, a student may continue to participate in classroom activities but will be suspended from clinical activities.

Clinical Activities

All students in the College are required to engage in clinical activities as prescribed by their respective programs and are assigned to these activities during the course of their programs according to the needs of the educational programs, the students and clinical sites. Clinical experiences for allied health science students are available both within the Health Science Center and through agreements with many community agencies, public and private. With the exception of the B.S. program in dental hygiene, which provides clinical education on campus, programs in the College maintain a large number of affiliations with external clinical sites throughout the state and country in order to provide appropriate clinical experiences for their students. Listings of out-of-city sites may be obtained from the appropriate chairman or program director.

Occasionally, a scheduled clinical experience at an external site is unavailable due to circumstances beyond the control of the University; however, because the experience is required for graduation the College programs exercise a number of options and usually successfully substitute one site for another. On rare occasions, such a substitution is not possible and graduation may be temporarily delayed for a student until the required experience can be scheduled by the program and successfully completed by the student.

Graduation Requirements

In order to be recommended for a degree in any of the programs offered by the College, a candidate must comply with the following conditions:

1. The candidate must present evidence of having satisfactorily completed all prerequisite coursework, if applicable;
2. The candidate must complete all required courses of the professional curriculum with a minimum grade point average stipulated by the specific degree program and, in the case of clinical education or field work, at a level of proficiency that is satisfactory to the departmental faculty;
3. The candidate must demonstrate professionalism expected of a student in the particular discipline which is acceptable to the faculty;
4. The candidate must discharge all financial obligations to the University and affiliated organizations;
5. The candidate must meet college residency requirements;
6. The candidate must meet the technical standards for the college and the respective program.
7. For a baccalaureate degree candidate, the general education competencies (i.e., communication, mathematics, sciences, critical thinking, information literacy, and technology) must be met prior to graduation. Additional information on each of these competencies is presented in the program-specific section of this catalog.

Participation in graduation exercises is mandatory for all graduating students. Any student who is unable to attend graduation exercises must request permission from the Dean to graduate *in absentia*. Such a request must be submitted in writing and must clearly state the student's reason(s) for making the request. A student may graduate *in absentia* only if the Dean of the college has approved the request. The Dean will notify the Chancellor and the Registrar of such approved requests.

Honors

Honors graduates of the undergraduate entry-level programs in the College are so designated in recognition of academic distinction achieved in their respective professional curricula. Honors designations receive special mention in the graduation program and on diplomas, and are based on the following cumulative grade point averages for the **undergraduate degree programs**:

- 3.50 - 3.69 Graduation With Honors
- 3.70 - 3.89 Graduation With High Honors
- 3.90 - 4.00 Graduation With Highest Honors

The criteria for honors designation in **some graduate entry-level programs** include:

- Those students whose overall grade point average is the highest 10% of the class are recommended for graduation with "highest honors".
- Those students whose overall grade point average is in the next 10% are recommended for graduation with "high honors".

No honors designations are awarded for post-graduate programs or for graduate entry-level programs in Audiology or Speech-Language Pathology.

Licensure

A license to practice audiology, dental hygiene, cytotechnology, medical laboratory science, physician assistant, physical therapy, or speech-language pathology is required by Tennessee state law. Graduates of programs in dental hygiene, physician assistant studies and physical therapy are eligible to sit for the appropriate state licensing examination. Medical laboratory science, cytotechnology, audiology and speech pathology graduates are eligible for Tennessee licensure upon acquiring national certification.

SPECIAL AWARDS AND HONORS

Alpha Eta Honor Society

The national allied health science honor society, Alpha Eta, recognizes graduating allied health science students who exhibit superior academic achievement and potential for leadership in their chosen professions. No more than twenty percent of each graduating class may be selected for membership. The names of newly elected members are announced as part of the college observance of graduation.

Sigma Xi Allied Health Science Student Excellence in Research Award

This award is presented by Sigma-Xi, The Society of Scientific Research to the graduating Allied Health Science student(s) submitting the best original paper based upon mentored research.

Departmental Awards

Outstanding students are recognized for their achievements during the College Convocation and Awards Ceremony held before each May commencement. Program-specific awards given in recognition of academic excellence, professional competence, and leadership are described in the specific department or program sections of this catalog.

AUDIOLOGY AND SPEECH PATHOLOGY

Ashley W. Harkrider, Ph.D., Associate Professor and Department Chair
 Patrick N. Plyer, Ph.D., Associate Professor and Program Director
 Ilsa Schwarz, Ph.D., Professor and Program Director

Location and Facilities

The Department of Audiology and Speech Pathology is located on the campus of the University of Tennessee, Knoxville. Most student classes, laboratories, and on-campus clinical practicum are held in the Silverstein-Luper Speech and Hearing Center at 1600 Peyton Manning Pass, the third through fifth floors of South Stadium Hall, and/or the Pediatric Language Clinic at 909 Mountcastle Street.

Academic Calendar – Audiology and Speech Pathology Programs

| Date | Activity | Class |
|--|--|-------|
| Monday, August 12, 2013 | Last day to register Fall 3 | all |
| Monday, August 12, 2013 | Tuition and fees due Fall 3 | all |
| Monday, August 19 2013 | Orientation | all |
| Wednesday, August 21, 2013 | ASP Classes begin | all |
| <i>Monday, September 2, 2013</i> | <i>Labor Day (Offices closed)</i> | |
| Thursday, October 17 – Friday, October 18, 2013 | Fall break | all |
| Friday, November 1, 2013 | Spring 2 registration begins | all |
| <i>Thursday, November 28 – Friday, November 29, 2013</i> | <i>Thanksgiving break (offices closed)</i> | |
| Tuesday, December 3, 2013 | Last day of classes | all |
| Thursday, December 12, 2013 | Last day for final exams | all |
| Thursday, December 12, 2013 | Graduation | |
| <i>Monday, December 23 - Friday, December 27, 2013</i> | <i>University Holiday (offices closed)</i> | |
| <i>Wednesday, January 1, 2014</i> | <i>University Holiday (offices closed)</i> | |
| Thursday, January 2, 2014 | Tuition and Fees Due Spring 2 | all |
| Wednesday, January 8, 2014 | Spring classes begin | all |
| <i>Monday, January 20, 2014</i> | <i>University Holiday (offices closed)</i> | |
| Monday, March 17, 2014 – Friday, March 21, 2014 | Spring Break | all |
| Tuesday, April 1, 2014 | Summer 1 registration begins | all |
| <i>Friday, April 18, 2014</i> | <i>Spring Holiday (offices closed)</i> | |
| Friday, April 25, 2014 | Last day of classes | all |
| Tuesday, May 6, 2014 | Last day of final exams | all |
| Thursday, May 8, 2014 | Graduation | |
| <i>Monday, May 26, 2014</i> | <i>Memorial Day (offices closed)</i> | |
| Thursday, May 29, 2014 | Summer classes begin | all |
| <i>Friday, July 4, 2014</i> | <i>Independence Day (offices closed)</i> | |
| Friday, August 8, 2014 | Summer 1 classes end | all |

DOCTORATE IN AUDIOLOGY (AU.D.)

Program Objectives

The Au.D. Program is clinically oriented with primary emphasis on academic and practical experience with normal and disordered hearing. The program fosters development of individuals seeking professional careers in clinical practice in audiology and provides a well-rounded academic and clinical training experience. This program is designed for students to meet the academic and practicum requirements for clinical certification from the American Speech-Language-Hearing Association (ASHA) upon graduation.

Admissions

The UTHSC program in Audiology utilizes the Council of Academic Programs in Communication Sciences and Disorders Centralized Application Service (CSDCAS). Prospective applicants may apply by accessing the Audiology Applicant website at <https://portal.csdcas.org/>.

Requirements for Admission

1. Bachelor's degree from an accredited university
2. A minimum GPA of 3.0 on a 4.0 scale in the Bachelor's degree
3. A satisfactory score on the Verbal and Quantitative scales of the Graduate Record Examination (GRE).
4. Three letters of recommendation preferably completed by 3 professors who had the student in class.
5. A personal statement of intent.
6. Foreign applicants whose native language is not English must submit results of TOEFL with a minimum score of 550.

Applicants who accept an offer of admission will be required to complete the UTHSC Pre-Admissions Requirement System (PARS).

Health Requirements

Audiology students are required to show proof of current health insurance prior to enrollment. Students are required to be immunized against the Hepatitis B virus and to have an annual skin test for Tuberculosis. Information about meeting these requirements is presented via email prior to the first day of class and, again, during orientation. Some clinical education sites require affiliating audiology students to have one or more of the following: rubella titer or vaccine, general physical examination. Students are responsible for these costs.

Technical Standards

Audiology students must have or acquire certain essential skills, functions, and professional attitudes and behavior as described in the Technical Standards document. All students who enroll must be prepared to understand and abide by these requirements. Information about meeting these requirements is presented during orientation.

In order to acquire the knowledge and skills requisite to the practice of audiology or speech-language pathology, to function in a broad variety of clinical situations, and to render a wide spectrum of patient care, individuals must have skills and attributes in five areas: communication, motor, intellectual-cognitive sensory-observational, and behavioral-social. These skills enable a student to meet graduate and professional requirements as measured by state licensure and national certification. Many of these skills can be learned and developed during the course of the graduate program through coursework and clinical experience. The starred items (*), however, are skills that are more inherent and should be present when a student begins the program.

COMMUNICATION

A student must possess adequate communication skills to:

- Communicate proficiently in both oral and written English language. (Language to be determined by program.)*
- Possess reading and writing skills sufficient to meet curricular and clinical demands.*
- Perceive and demonstrate appropriate non-verbal communication for culture and context.*
- Modify communication style to meet the communication needs of clients, caregivers, and other persons served. *
- Communicate professionally and intelligibly with patients, colleagues, other healthcare professionals, and community or professional groups.
- Communicate professionally, effectively, and legibly on patient documentation, reports, and scholarly papers required as a part of course work and professional practice.
- Convey professional information accurately with relevance and cultural sensitivity.

MOTOR

A student must possess adequate motor skills to:

- Sustain necessary physical activity level in required classroom and clinical activities.*
- Respond quickly to provide a safe environment for clients in emergency situations including fire, choking, etc.*
- Access transportation to clinical and academic placements.*
- Participate in classroom and clinical activities for the defined workday.*
- Efficiently manipulate testing and treatment environment and materials without violation of testing protocol and with best therapeutic practice.
- Manipulate patient-utilized equipment (e.g. durable medical equipment to include AAC devices, hearing aids, etc.) in a safe manner.
- Access technology for clinical management (i.e. billing, charting, therapy programs, etc.).

INTELLECTUAL / COGNITIVE

A student must possess adequate intellectual and cognitive skills to:

- Comprehend, retain, integrate, synthesize, infer, evaluate and apply written and verbal information sufficient to meet curricular and clinical demands.*
- Identify significant findings from history, evaluation, and data to formulate a diagnosis and develop a treatment plan.
- Solve problems, reason, and make sound clinical judgments in patient assessment, diagnostic and therapeutic plan and implementation.
- Self evaluate, identify, and communicate limits of one's own knowledge and skill to appropriate professional level and be able to identify and utilize resources in order to increase knowledge.
- Utilize detailed written and verbal instruction in order to make unique and independent decisions.

SENSORY/OBSERVATIONAL

A student must possess adequate sensory skills of vision, hearing, tactile, and smell to:

- Visually and auditorily identify normal and disordered communication in all areas relevant to professional practice.
- Identify the need for alternative modalities of communication.
- Visualize and identify anatomic structures.
- Identify and discriminate findings on imaging studies.
- Discriminate text, numbers, tables, and graphs associated with diagnostic instruments and tests.
- Recognize when a client's family does or does not understand the clinician's written and or verbal communication.

BEHAVIORAL / SOCIAL

A student must possess adequate behavioral and social attributes to:

- Display mature empathetic and effective professional relationships by exhibiting compassion, integrity, and concern for others.*
- Recognize and show respect for individuals with disabilities and for individuals of different ages, genders, race, religions, sexual orientation, and cultural and socioeconomic backgrounds.*
- Conduct oneself in an ethical and legal manner, upholding the ASHA Code of Ethics and university and federal privacy policies.*
- Maintain general good physical and mental health and self-care in order not to jeopardize the health and safety of self and others in the academic and clinical setting.*
- Adapt to changing and demanding environments (which includes maintaining both professional demeanor and emotional health).
- Manage the use of time effectively to complete professional and technical tasks within realistic time constraints.
- Accept appropriate suggestions and constructive criticism and respond by modification of behaviors.
- Dress appropriately and professionally.

Criminal Background Check

A criminal background check is required after acceptance and prior to enrollment. Upon receipt of an adverse criminal background check, an explanation by the student will be required and a decision will be made by the Chair and Dean as to whether the incident(s) would be a problem for the student when seeking internship placements or licensure to practice. Admission may be denied in some cases. Students should be aware that additional criminal background checks along with drug screens and fingerprinting may be required by clinical sites, certification committees, and state licensure boards. Students are responsible for these costs.

Accreditation

The program in audiology is accredited by the Council on Academic Accreditation in Audiology and Speech- Language Pathology.

Curriculum Summary

The Au.D. program is designed for full-time students and typically requires three years of study on campus and one year of clinical externship, for a total of four years. Core courses are offered one time per year. Elective/Supplementary courses are offered as needed. Clinical practicum experiences (e.g., ASP 512, 515, 613) and directed research or independent study courses (e.g., ASP 656, 658, 660) are offered every term.

First Year (Fall)

| | Credit Hours |
|--|--------------|
| ASP 510 Clinical Education Series (CES): Protocols | 1 |
| ASP 543 Amplification Technology | 3 |
| ASP 546 Audiologic Assessment | 3 |
| ASP 507 Anatomy & Physiology of Hearing | 3 |
| ASP 512 Clinical Practice in Audiology | 1 |

First Year (Spring)

| | Credit Hours |
|--|--------------|
| ASP 510 Clinical Education Series (CES): Auditory Processing | 1 |
| ASP 576 Physiologic Assessment of the Auditory System I | 4 |
| ASP 577 Vestibular Disorders | 4 |
| ASP 585 Cochlear Implants | 3 |
| ASP 512 and/or 515 Clinical Practice in Audiology and/or Practicum in Aural Rehabilitation | 3 |

First Year (Summer)

| | |
|---|--------------|
| ASP 510 Clinical Education Series (CES): Cochlear Implants | Credit Hours |
| ASP 542 Hearing Disorders | 1 |
| ASP 574 Pediatric Audiology for Audiology Majors | 3 |
| ASP 512 <u>and/or</u> 515 Clinical Practice in Audiology <u>and/or</u> Practicum in Aural Rehabilitation | 3 |
| | 4 |

Second Year (Fall)

| | |
|---|--------------|
| ASP 510 Clinical Education Series (CES): Private Practice | Credit Hours |
| ASP 511 Introduction to Research in Speech and Hearing | 1 |
| ASP 544 Amplification for Adults with Hearing Impairment | 3 |
| ASP 602 Psychoacoustics | 3 |
| ASP 512 and/or 515 Clinical Practice in Audiology and/or Practicum in Aural Rehabilitation | 3 |
| | 3 |

**Qualifying exams taken at beginning of term*

Second Year (Spring)

| | |
|---|--------------|
| ASP 510 Clinical Education Series (CES): Hot Topics (as needed) | Credit Hours |
| ASP 545 Sound Measurement Techniques and Hearing Conservation | 1 |
| ASP 584 Amplification for Children with Hearing Impairment | 2 |
| ASP 605 Speech Perception and Hearing Impairment | 3 |
| ASP 656 Directed Research | 3 |
| ASP 512 and/or 515 Clinical Practice in Audiology and/or Practicum in Aural Rehabilitation | 3 |
| | 3 |

Second Year (Summer)

| | |
|---|--------------|
| ASP 512 and/or 613 Clinical Practice in Audiology and/or Externship in Audiology | Credit Hours |
| | 4 |

Third Year (Fall)

| | |
|---|--------------|
| ASP 510 Clinical Education Series (CES): Educational Audiology | Credit Hours |
| ASP 604 Molecular Genetics & Pharmacology of Hearing | 1 |
| ASP 583 Physiologic Assessment of the Auditory System II | 3 |
| ASP 594 Aural Habilitation/Rehabilitation of the Hearing-Impaired | 3 |
| ASP 656 Directed Research (if needed) | 3 |
| ASP 512 and/or 515 Clinical Practice in Audiology and/or Practicum in Aural Rehabilitation | 3 |
| | 3 |

Third Year (Spring)

| | |
|---|--------------|
| ASP 510 Clinical Education Series (CES): Research Colloquium | Credit Hours |
| ASP 586 Standards & Practice Issues in Audiology | 1 |
| ASP 663 Advanced Series in Aural Habilitation/Rehabilitation | 3 |
| ASP 664 Current Trends in Amplification | 3 |
| ASP 512 and/or 515 Clinical Practice in Audiology and/or Practicum in Aural Rehabilitation | 3 |
| Elective or ASP 656 Directed Research (if needed) | 3 |
| | 3 |

**Comprehensive exams taken at beginning of term.*

Third Year (Summer)

ASP 613 Externship in Audiology

Credit Hours

6

Fourth Year (Fall)

ASP 613 Externship in Audiology

Credit Hours

6

Fourth Year (Spring)

ASP 613 Externship in Audiology

Credit Hours

6

*Minimum of 112 credit hours required***Au.D. Grading Scale****Academic Coursework****A** = ≥ 0.90 **B+** = ≥ 0.86 & < 0.90 **B** = ≥ 0.80 & < 0.86 **C+** = ≥ 0.76 & < 0.80 **C** = ≥ 0.70 & < 0.76 **D** = ≥ 0.60 & < 0.70 **Clinical Practicum****A** = ≥ 0.94 **B** = ≥ 0.86 & ≤ 0.93 **C** = ≥ 0.78 & < 0.85 **D** = ≥ 0.70 & < 0.77

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Requirements for Graduation

The following requirements must be satisfied to earn the degree of Doctor of Audiology:

1. Satisfactory completion of a minimum of 112 semester credit hours of work, which must include 70 hours of academic courses, and 42 hours in clinical courses.
2. Students must complete coursework with a "B" or better overall average. Grades of "B" or above are required in all content area coursework.
3. Satisfactory completion ("Pass") of a qualifying exam.
4. Satisfactory completion ("Pass") of a thesis or comprehensive exam is required prior to graduation.
5. Students must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.
6. Students planning to practice in the United States also must pass all Knowledge and Skills (KASA) competencies prior to graduation.

POST-PROFESSIONAL PROGRAM IN AUDIOLOGY (Au.D.)

Program Objectives

The transitional or post-professional Doctor of Audiology degree program primarily is designed as an avenue for graduates from the University of Tennessee to gain the additional knowledge necessary to transition from the MA/MS to the entry-level Au.D. Graduates from programs other than UT may also apply to the program. The degree completion program was developed in conjunction with the audiology program's conversion to the Au.D., which requires 112 graduate credit hours.

The philosophy of the Au.D. program is that the Doctor of Audiology degree is the appropriate first professional degree for audiologists. The program also supports the certification standards of the American Speech-Language-Hearing Association (ASHA) for the profession.

With the implementation of the transitional (post-professional) Au.D. degree program at UTHSC, the institution and the Department of Audiology and Speech Pathology is facilitating the achievement of a common baseline for all audiologists who have graduated from the program at UT in the past. The transitional or post-professional program allows working clinicians to gain the additional knowledge necessary to bring them academically and clinically to the entry-level Au.D. The program is designed to add only the essential knowledge and skills needed to practice as a Doctor of Audiology, as the *Knowledge and Skills Assessment (KASA)* expands the expected outcomes of audiology graduates in the areas of foundations of practice, prevention and identification, evaluation, and treatment.

Program Description

Prior to the implementation of the Au.D. as the entry-level degree for certification in audiology, students were required to complete a 2-year graduate program culminating in the Master's degree. Graduates then completed a 9-month Clinical Fellowship Year (CFY) under the supervision of a certified audiologist. Once completed, the graduate became eligible for the Certificate of Clinical Competence in Audiology (CCC-A) from ASHA and for state licensure.

Due to the changes in ASHA certification standards noted earlier, the 2-year Master's program at UT was expanded to a 4-year program culminating in the Au.D. degree. The first two years of the Au.D. program and previous M.A. program are the same with one exception; ASP 584 (Pediatric Amplification) was added. During the third year of the Au.D. program, students complete 18 credit hours of coursework, 3 credit hours of directed research, and 6 credit hours of clinical practicum. The fourth year of the Au.D. program is dedicated to full-time externship (18 credit hours) which is comparable to the CFY completed post-graduation under the old certification standards.

Program Requirements

Applicants to the transitional Au.D. program are required to have earned a Master's degree in Audiology. Based upon the program requirements outlined below, an individualized graduate program will be designed in accordance with the Audiology Certification Standards (ASHA, 2007).

Applicants to the transitional Au.D. program who have completed a CFY will be expected to complete 18 credit hours of coursework and 3 credit hours of directed research included in the 3rd year of the Au.D. program which were not completed during the Master's program. Applicants who have completed a CFY will be granted a waiver of the 18 credit hours of clinical externship completed in the 4th year of the Au.D. program; however the applicant must complete a minimum of 3 credit hours of clinical practicum to demonstrate he/she meets the *KASA* requirements for clinical competence. Clinical competence will be assessed by current clinical faculty or an approved off-campus supervisor using the procedures and metrics used for 4th year externs in the Au.D. program. The applicant will continue to enroll in clinical practicum until he/she meets the *KASA* requirements for clinical competence.

Applicants to the transitional Au.D. program that did not complete a CFY will be expected to complete 18 credit hours coursework, 3 credit hours of directed research, 6 credit hours of clinical practicum, and 18 credit hours of externship included in the 3rd and 4th years of the Au.D. program that he/she did not complete during their Master's program. At the completion of the 4th year externship, the applicant must demonstrate he/she meets the *KASA* requirements for clinical competence. Clinical competence will be assessed by current clinical faculty or an approved off-campus supervisor using the procedures and metrics used for 4th year externs in the Au.D. Program.

Program Components

If the audiologist graduated from the 2-year MA/MS program at UT, the Au.D. degree completion program will require a minimum of 27 credit hours. Graduates from institutions other than UT will have an individualized review of academic coursework and clinical experiences to determine which courses must be taken. Most audiologists will be able to complete the program in approximately 1 - 2 years while employed in a clinical or academic setting.

Components for the MA/MS graduate from UT:

1. Based upon a review of the application materials, the applicant may be granted a waiver of the 18 credit hours of clinical externship if he/she has successfully completed a Clinical Fellowship Year; however the applicant must complete a minimum of 3 credit hours of clinical practicum to demonstrate he/she meets the *KASA* requirements for clinical competence. Clinical competence will be assessed by current clinical faculty or an approved off-campus supervisor using the procedures and metrics used for 4th year externs in the Au.D. program. The applicant will continue to enroll in clinical practicum until he/she meets the *KASA* requirements for clinical competence.
2. **Required UTHSC Courses** (21 credit hours)

| | |
|--|----------------|
| ASP 583 Physiologic Assessment of the Auditory System II | 3 credit hours |
| ASP 584 Amplification for Children with Hearing Impairment | 3 credit hours |
| ASP 585 Cochlear Implants | 3 credit hours |
| ASP 586 Standards and Practice Issues in Audiology | 3 credit hours |
| ASP 604 Molecular Genetics & Pharmacology of Hearing | 3 credit hours |
| ASP 663 Advanced Series in Aural Habilitation/Rehabilitation | 3 credit hours |
| ASP 664 Current Trends in Amplification | 3 credit hours |
3. **Required UTHSC Research** (3 credit hours)

| | |
|---------------------------|----------------|
| ASP 656 Directed Research | 3 credit hours |
|---------------------------|----------------|
4. **Required UTHSC Clinical Practicum** (3 credit hours)

| | |
|--|------------------------------|
| ASP 512 Clinical Practice in Audiology | 3 credit hours ¹³ |
|--|------------------------------|
5. **Required UTHSC Externship** (18 credit hours)

| | |
|---------------------------------|-------------------------------|
| ASP 613 Externship in Audiology | 18 credit hours ¹⁴ |
|---------------------------------|-------------------------------|
6. Students are given a maximum of 5 years from entrance into the program to complete all the degree requirements.
7. Applicants that completed a CFY will take a minimum of 3 credit hours of ASP 512 to demonstrate *KASA* requirements for clinical competency. The applicant will continue to enroll in ASP 512 until he/she meets the *KASA* requirements for clinical competence.
8. Applicants that did not complete a CFY will complete 6 credit hours of ASP 512 and 18 credit hours of ASP 613.

Components for the MA/MS graduate from another University:

¹³ Applicants that completed a CFY will take a minimum of 3 credit hours of ASP 512 to demonstrate *KASA* requirements for clinical competency. The applicant will continue to enroll in ASP 512 until he/she meets the *KASA* requirements for clinical competence.

¹⁴ Applicants that did not complete a CFY will complete 6 credit hours of ASP 512 and 18 credit hours of ASP 613.

1. Based upon a review of the application materials, representatives from the program and admissions committee will determine if coursework completed in the applicant's MA/MS program is comparable to that required in the UT MS program. Any courses deemed unacceptable or missing will be added to the required courses listed below. The applicant may be granted a waiver of the 18 credit hours of clinical externship if they have successfully completed a Clinical Fellowship Year; however the applicant must complete a minimum of 3 credit hours of clinical practicum to demonstrate he/she meets the *KASA* requirements for clinical competence. Clinical competence will be assessed by current clinical faculty or an approved off-campus supervisor using the procedures and metrics used for 4th year externs in the Au.D. program. The applicant will continue to enroll in clinical practicum until he/she meets the *KASA* requirements for clinical competence.
2. **Required UTHSC Courses** (21 credit hours, minimum¹⁵)

| | |
|--|----------------|
| ASP 583 Physiologic Assessment of the Auditory System II | 3 credit hours |
| ASP 584 Amplification for Children with Hearing Impairment | 3 credit hours |
| ASP 585 Cochlear Implants | 3 credit hours |
| ASP 586 Standards and Practice Issues in Audiology | 3 credit hours |
| ASP 604 Molecular Genetics & Pharmacology of Hearing | 3 credit hours |
| ASP 663 Advanced Series in Aural Habilitation/Rehabilitation | 3 credit hours |
| ASP 664 Current Trends in Amplification | 3 credit hours |
3. **Required UTHSC Research** (3 credit hours)

| | |
|---------------------------|----------------|
| ASP 656 Directed Research | 3 credit hours |
|---------------------------|----------------|
4. **Required UTHSC Clinical Practicum** (3 credit hours)

| | |
|--|------------------------------|
| ASP 512 Clinical Practice in Audiology | 3 credit hours ¹⁶ |
|--|------------------------------|
5. **Required UTHSC Externship** (18 credit hours)

| | |
|---------------------------------|-------------------------------|
| ASP 613 Externship in Audiology | 18 credit hours ¹⁷ |
|---------------------------------|-------------------------------|
6. Students are given a maximum of 5 years from entrance into the program to complete all the degree requirements.
7. Coursework missing from MA/MS program to be determined
8. Applicants that completed a CFY will take a minimum of 3 credit hours of ASP 512 to demonstrate *KASA* requirements for clinical competency. The applicant will continue to enroll in ASP 512 until he/she meets the *KASA* requirements for clinical competence.
9. Applicants that did not complete a CFY will complete 6 credit hours of ASP 512 and 18 credit hours of ASP 613.

Application Materials

The applicant must provide the following materials for review by the admissions committee (see below). Based upon a review of the application materials and program requirements outlined previously, an individualized graduate program will be designed in accordance with the Audiology Certification Standards (ASHA, 2007).

1. Current home address and contact information
2. Education summary including transcripts
3. Complete work history including job site, position held, and length of employment
4. Evidence of successful completion of the Clinical Fellowship Year, if applicable

¹⁵ Coursework missing from MA/MS program to be determined

¹⁶ Applicants that completed a CFY will take a minimum of 3 credit hours of ASP 512 to demonstrate *KASA* requirements for clinical competency. The applicant will continue to enroll in ASP 512 until he/she meets the *KASA* requirements for clinical competence.

¹⁷ Applicants that did not complete a CFY will complete 6 credit hours of ASP 512 and 18 credit hours of ASP 613.

MASTER OF SCIENCE IN AUDIOLOGY (M.S. Aud)

Graduate study leading to the MS with a major in audiology is only available to those students accepted to and enrolled in the AuD program. This degree is awarded to students who desire a master's degree as part of their progress toward a doctorate. A student must be in good standing within the AuD program and must have completed a minimum of 42 credits of academic coursework at the 500 or 600 levels (not including ASP 512 or 515) and must pass a qualifying examination or equivalent.

Requirements for Admission (to the AuD degree program)

1. Bachelor's degree from an accredited university
2. A minimum GPA of 3.0 on a 4.0 scale in the Bachelor's degree
3. A satisfactory score on the Verbal and Quantitative scales of the Graduate Record Examination (GRE).
4. Three letters of recommendation preferably completed by 3 professors who had the student in class.
5. A personal statement of intent.
6. Foreign applicants whose native language is not English must submit results of TOEFL with a minimum score of 550.

Applicants who accept an offer of admission will be required to complete the UTHSC Pre-Admissions Requirement System (PARS).

Health Requirements

Audiology students are required to show proof of current health insurance prior to enrollment. Students are required to be immunized against the Hepatitis B virus and to have an annual skin test for Tuberculosis. Information about meeting these requirements is presented via email prior to the first day of class and, again, during orientation. Some clinical education sites require affiliating audiology students to have one or more of the following: rubella titer or vaccine, general physical examination. Students are responsible for these costs.

Technical Standards

Audiology students must have or acquire certain essential skills, functions, and professional attitudes and behavior as described in the Technical Standards document. All students who enroll must be prepared to understand and abide by these requirements. Information about meeting these requirements is presented during orientation.

In order to acquire the knowledge and skills requisite to the practice of audiology or speech-language pathology, to function in a broad variety of clinical situations, and to render a wide spectrum of patient care, individuals must have skills and attributes in five areas: communication, motor, intellectual-cognitive sensory-observational, and behavioral-social. These skills enable a student to meet graduate and professional requirements as measured by state licensure and national certification. Many of these skills can be learned and developed during the course of the graduate program through coursework and clinical experience. The starred items (*), however, are skills that are more inherent and should be present when a student begins the program.

COMMUNICATION

A student must possess adequate communication skills to:

- Communicate proficiently in both oral and written English language. (Language to be determined by program.)*
- Possess reading and writing skills sufficient to meet curricular and clinical demands.*
- Perceive and demonstrate appropriate non-verbal communication for culture and context.*
- Modify communication style to meet the communication needs of clients, caregivers, and other persons served.*
- Communicate professionally and intelligibly with patients, colleagues, other healthcare professionals, and community or professional groups.
- Communicate professionally, effectively, and legibly on patient documentation, reports, and scholarly papers required as a part of course work and professional practice.
- Convey professional information accurately with relevance and cultural sensitivity.

MOTOR

A student must possess adequate motor skills to:

- Sustain necessary physical activity level in required classroom and clinical activities.*
- Respond quickly to provide a safe environment for clients in emergency situations including fire, choking, etc.*
- Access transportation to clinical and academic placements.*
- Participate in classroom and clinical activities for the defined workday.*
- Efficiently manipulate testing and treatment environment and materials without violation of testing protocol and with best therapeutic practice.
- Manipulate patient-utilized equipment (e.g. durable medical equipment to include AAC devices, hearing aids, etc.) in a safe manner.
- Access technology for clinical management (i.e. billing, charting, therapy programs, etc.).

INTELLECTUAL / COGNITIVE

A student must possess adequate intellectual and cognitive skills to:

- Comprehend, retain, integrate, synthesize, infer, evaluate and apply written and verbal information sufficient to meet curricular and clinical demands.*
- Identify significant findings from history, evaluation, and data to formulate a diagnosis and develop a treatment plan.
- Solve problems, reason, and make sound clinical judgments in patient assessment, diagnostic and therapeutic plan and implementation.
- Self evaluate, identify, and communicate limits of one's own knowledge and skill to appropriate professional level and be able to identify and utilize resources in order to increase knowledge.
- Utilize detailed written and verbal instruction in order to make unique and independent decisions.

SENSORY/OBSERVATIONAL

A student must possess adequate sensory skills of vision, hearing, tactile, and smell to:

- Visually and auditorily identify normal and disordered communication in all areas relevant to professional practice.
- Identify the need for alternative modalities of communication.
- Visualize and identify anatomic structures.
- Identify and discriminate findings on imaging studies.
- Discriminate text, numbers, tables, and graphs associated with diagnostic instruments and tests.
- Recognize when a client's family does or does not understand the clinician's written and or verbal communication.

BEHAVIORAL/ SOCIAL

A student must possess adequate behavioral and social attributes to:

- Display mature empathetic and effective professional relationships by exhibiting compassion, integrity, and concern for others.*
- Recognize and show respect for individuals with disabilities and for individuals of different ages, genders, race, religions, sexual orientation, and cultural and socioeconomic backgrounds.*
- Conduct oneself in an ethical and legal manner, upholding the ASHA Code of Ethics and university and federal privacy policies.*
- Maintain general good physical and mental health and self-care in order not to jeopardize the health and safety of self and others in the academic and clinical setting.*
- Adapt to changing and demanding environments (which includes maintaining both professional demeanor and emotional health).
- Manage the use of time effectively to complete professional and technical tasks within realistic time constraints.
- Accept appropriate suggestions and constructive criticism and respond by modification of behaviors.
- Dress appropriately and professionally.

MASTER OF SCIENCE IN SPEECH-LANGUAGE PATHOLOGY (M.S.SLP)

Program Objectives

The academic courses and clinical opportunities prepare students to address speech, language, and swallowing disorders across the lifespan in both medical and educational environments. Emphasis is placed on evidence-based practice with sensitivity to cultural and linguistic diversity. This program is designed to meet all academic and practicum requirements for clinical certification from the American Speech-Language-Hearing Association (ASHA).

Admissions

The UTHSC Program utilizes the Council of Academic Programs in Communication Sciences and Disorders Centralized Application Service <http://www.capcsd.org/csdcas/>. Prospective applicants may apply by accessing the Speech-Language Pathology Applicant website at <https://portal.csdcas.org/>.

Requirements for Admission

1. Bachelor's degree from an accredited university.
2. A minimum GPA of 3.0 on a 4.0 scale in the Bachelor's Degree.
3. A satisfactory score on the Verbal and Quantitative scales of the Graduate Record Examination (GRE).
4. Three letters of recommendation preferably completed by 3 professors who had the student in class.
5. A personal statement of intent.
6. Foreign applicants whose native language is not English must submit results of TOEFL with a minimum score of 550.
7. Applicants who accept an offer of admission will be required to complete UTHSC's Pre-Admissions Requirement System (PARS).

Health Requirements

Speech-Language Pathology students are required to show proof of current health insurance prior to enrollment. Students are required to be immunized against the Hepatitis B virus and to have an annual skin test for Tuberculosis. Information about meeting these requirements is presented via email prior to the first day of class and, again, during orientation. Some clinical education sites require affiliating Speech- Language Pathology students to have one or more of the following: rubella titer or vaccine, general physical examination. Students are responsible for these costs.

Technical Standards

In order to be considered for national certification or state licensure, Speech-Language Pathology students must have or acquire certain essential skills, functions and professional attitudes and behavior as described in the Technical Standards document. All students who enroll must be prepared to understand and abide by these requirements. Information about meeting these requirements is presented during orientation.

In order to acquire the knowledge and skills requisite to the practice of audiology or speech-language pathology, to function in a broad variety of clinical situations, and to render a wide spectrum of patient care, individuals must have skills and attributes in five areas: communication, motor, intellectual-cognitive sensory-observational, and behavioral-social. These skills enable a student to meet graduate and professional requirements as measured by state licensure and national certification. Many of these skills can be learned and developed during the course of the graduate program through coursework and clinical experience. The starred items (*), however, are skills that are more inherent and should be present when a student begins the program.

COMMUNICATION

A student must possess adequate communication skills to:

- Communicate proficiently in both oral and written English language. (Language to be determined by program.)*
- Possess reading and writing skills sufficient to meet curricular and clinical demands.*
- Perceive and demonstrate appropriate non-verbal communication for culture and context.*
- Modify communication style to meet the communication needs of clients, caregivers, and other persons served. *
- Communicate professionally and intelligibly with patients, colleagues, other healthcare professionals, and community or professional groups.
- Communicate professionally, effectively, and legibly on patient documentation, reports, and scholarly papers required as a part of course work and professional practice.
- Convey professional information accurately with relevance and cultural sensitivity.

MOTOR

A student must possess adequate motor skills to:

- Sustain necessary physical activity level in required classroom and clinical activities.*
- Respond quickly to provide a safe environment for clients in emergency situations including fire, choking, etc.*
- Access transportation to clinical and academic placements.*
- Participate in classroom and clinical activities for the defined workday.*
- Efficiently manipulate testing and treatment environment and materials without violation of testing protocol and with best therapeutic practice.
- Manipulate patient-utilized equipment (e.g. durable medical equipment to include AAC devices, hearing aids, etc.) in a safe manner.
- Access technology for clinical management (i.e. billing, charting, therapy programs, etc.).

INTELLECTUAL / COGNITIVE

A student must possess adequate intellectual and cognitive skills to:

- Comprehend, retain, integrate, synthesize, infer, evaluate and apply written and verbal information sufficient to meet curricular and clinical demands.*
- Identify significant findings from history, evaluation, and data to formulate a diagnosis and develop a treatment plan.
- Solve problems, reason, and make sound clinical judgments in patient assessment, diagnostic and therapeutic plan and implementation.
- Self evaluate, identify, and communicate limits of one's own knowledge and skill to appropriate professional level and be able to identify and utilize resources in order to increase knowledge.
- Utilize detailed written and verbal instruction in order to make unique and independent decisions.

SENSORY/OBSERVATIONAL

A student must possess adequate sensory skills of vision, hearing, tactile, and smell to:

- Visually and auditorily identify normal and disordered communication in all areas relevant to professional practice.
- Identify the need for alternative modalities of communication.
- Visualize and identify anatomic structures.
- Identify and discriminate findings on imaging studies.
- Discriminate text, numbers, tables, and graphs associated with diagnostic instruments and tests.
- Recognize when a client's family does or does not understand the clinician's written and or verbal communication.

BEHAVIORAL/ SOCIAL

A student must possess adequate behavioral and social attributes to:

- Display mature empathetic and effective professional relationships by exhibiting compassion, integrity, and concern for others.*
- Recognize and show respect for individuals with disabilities and for individuals of different ages, genders, race, religions, sexual orientation, and cultural and socioeconomic backgrounds.*
- Conduct oneself in an ethical and legal manner, upholding the ASHA Code of Ethics and university and federal privacy policies.*
- Maintain general good physical and mental health and self-care in order not to jeopardize the health and safety of self and others in the academic and clinical setting.*
- Adapt to changing and demanding environments (which includes maintaining both professional demeanor and emotional health).
- Manage the use of time effectively to complete professional and technical tasks within realistic time constraints.
- Accept appropriate suggestions and constructive criticism and respond by modification of behaviors.
- Dress appropriately and professionally.

Criminal Background Check

A criminal background check is required after acceptance and prior to enrollment. Upon receipt of an adverse criminal background check, an explanation by the student will be required and a decision will be made by the Chair and Dean as to whether the incident(s) would be a problem for the student when seeking internship placements or licensure to practice. Admission may be denied in some cases. Students should be aware that additional criminal background checks along with drug screens and fingerprinting may be required by clinical sites, certification committees, and state licensure boards. Students are responsible for these costs.

Accreditation

The program in Speech-Language Pathology is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology.

Curriculum

The Speech Pathology program typically requires at least five credits of study for full-time students with undergraduate preparation in the discipline and eight credits of study for full-time students who hold bachelor's degrees in other areas. For this reason, most applicants will begin the program in year two. Part-time students are accepted into the MS-SLP program on occasion and time to completion of the program is dependent on their schedules and when needed courses and clinical practicum experiences are available.

Academic courses beyond the first 30 hours (Year One) that are required for all students include: ASP 506, ASP 518, ASP 519, ASP 526, ASP 539, ASP 541, ASP 552, ASP 553, ASP 554, ASP 561, ASP 582, and 3 different sections of 590

The MS-SLP curriculum is designed to provide opportunities for students to focus on certain areas through the use of elective options focusing on SLP in schools, Medical SLP and/or Aural Rehabilitation. There also is opportunity to complete a thesis in lieu of certain elective courses. In general, courses are offered one time per calendar year. Exceptions include undergraduate courses (e.g., ASP 300, ASP 320, ASP 494), which may be offered twice per calendar year. Professional series (ASP 590), clinical practicum experiences (e.g., ASP 533, ASP 537), and directed research or independent study courses (e.g., ASP 500, ASP 555, ASP 593, ASP 659) are offered every term.

Sample Course Schedule for MS-SLP Curriculum

(the 1st full year of coursework may be waived if taken prior to enrollment).

| First Year (Fall) | Credit Hours |
|---|--------------|
| ASP 303 Introduction to Hearing Science | 3 |
| ASP 305 Phonetics | 3 |
| ASP 306 Anatomy and Physiology of Speech | 3 |
| ASP 320 Speech and Language Development | 3 |
| ASP 300 Introduction to Communication Sciences and Disorders or ASP 455 Problems in Speech Pathology | 3 |
| First Year (Spring) | Credit Hours |
| ASP 302 Acoustics and Perception | 3 |
| ASP 461 Introduction to Language Pathology in Children | 3 |
| ASP 473 Introduction to Audiologic Assessment | 3 |
| ASP 494 Introduction to Aural Habilitation/Rehab of the Hearing Impaired | 3 |
| ASP 433 Observation of Clinical Practice | 1 |
| ASP 455 Problems in Speech Pathology | 2 |
| First Year (Summer) | Credit Hours |
| ASP 508 Voice Disorders <u>or</u> ASP 514 Stuttering (Elective choice) | 3 |
| ASP 573 Pediatric Audiology for Education (Elective choice) | 3 |
| ASP 590 Professional Seminar (Elective choice) | 1 |
| ASP 515 Practicum in Aural Rehabilitation, <u>and/or</u> ASP 533 Advanced Clinical Practice in Speech-Language Pathology, <u>and/or</u> ASP 534 Clinical Education Series | 2 1 |

Second Year (Fall)

| | Credit Hours |
|---|---------------------|
| ASP 506 Neural Bases of Speech and Language | 3 |
| ASP 518 Adult Neurogenic Communication Disorders I | 3 |
| ASP 541 Structural Disorders of Speech | 2 |
| ASP 561 Child Language Disorders | 3 |
| ASP 515 Practicum in Aural Rehabilitation, <u>and/or</u> ASP 533 Advanced Clinical Practice in SLP | 2 |
| ASP 534 Clinical Education Series | 1 |
| ASP 590 Professional Series in SLP (Elective choice) | 1 |

Second Year (Spring)

| | Credit Hours |
|---|---------------------|
| ASP 553 Research in Speech–Language Pathology | 2 |
| ASP 554 Language Analysis | 2 |
| ASP 519 Adult Neurogenic Communication Disorders II | 3 |
| ASP 526 Dysphagia | 3 |
| ASP 515 Practicum in Aural Rehabilitation, <u>and/or</u> ASP 533 Advanced Clinical Practice in SLP | 2 |
| ASP 534 Clinical Education Series | 1 |
| ASP 580 Medical Speech-Language Pathology | 2 |
| ASP 590 Professional Series in SLP (Elective choice) | 1 |

Second Year (Summer)

| | Credit Hours |
|---|---------------------|
| ASP 581 School Speech-Language Pathology | 2 |
| ASP 573 Pediatric Audiology for Education Professionals* | 3 |
| ASP 590 Professional Series in SLP (Elective choice) | 1 |
| ASP 515 Practicum in Aural Rehabilitation, <u>and/or</u> ASP 533 Advanced Clinical Practice in SLP | 2 |
| ASP 534 Clinical Education Series | 1 |
| Elective | 3 |

Third Year (Fall) **

| | Credit Hours |
|--|---------------------|
| ASP 539 Motor Speech Disorders | 3 |
| Select from: | 3 |
| ASP 661 Advanced Child Language <i>or</i> ASP 531 Advanced Stuttering <i>or</i> ASP 523 Advanced Voice <i>or</i> Elective | 3 |
| ASP 533 Advanced Clinical Practice in SPP, <u>and/or</u> ASP 537 Advanced Clinical Practice in SPL: Off-campus sites | 3 |

Third Year (Spring)

| | Credit Hours |
|--|---------------------|
| ASP 537 Advanced Clinical Practice in Speech Pathology - Off-Campus | 6 |

* If not taken previously

**Comprehensive Exam taken this term.

Minimum of 90 credit hours required

M.S.SLP Grading Scales

Academic Coursework

A = ≥ 0.90 ,

B+ = ≥ 0.86 & < 0.90 ,

B = ≥ 0.80 & < 0.86 ,

C+ = ≥ 0.76 & < 0.80 ,

C = ≥ 0.70 & < 0.76 ,

D = ≥ 0.60 & < 0.70

Clinical Practicum

A = ≥ 0.94 ,

B = ≥ 0.86 & ≤ 0.93 ,

C = ≥ 0.78 & < 0.85 ,

D = ≥ 0.70 & < 0.77

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Requirements for Graduation (M.S.SLP)

The following requirements must be satisfied to earn the degree of Master of Science with a major in Speech-Language Pathology.

1. Satisfactory completion of a minimum of 75 hours in academic coursework and a minimum of 15 hours in clinical practicum. (Up to 30 hours of requirements may be waived on the basis of knowledge and skills gained at the undergraduate level or prior to enrollment.)
 2. Students must complete coursework with a "B" or better overall average. Grades of "B" or above are required in all content area coursework and practicum.
 3. Satisfactory completion ("Pass") of a thesis or comprehensive exam is required prior to graduation.
 4. Students must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.
 5. Students planning to practice in the United States also must pass all Knowledge and Skills (KASA) competencies prior to graduation.
-

PhD in SPEECH AND HEARING SCIENCE

The Ph.D. Program is research oriented with primary emphasis on processes involved in normal or disordered speech, language, and hearing. The doctoral program fosters development of individuals who seek professional careers in research, teaching, or clinical practice in speech-language pathology, audiology, speech-language science, or hearing science.

For specific information on the PhD in Speech and Hearing Science program, refer to the College of Graduate Health Sciences section of this catalog.

BACHELOR OF SCIENCE (B.S.) IN AUDIOLOGY AND SPEECH PATHOLOGY – JOINT DEGREE

Program Objectives

The Department of Audiology and Speech Pathology offers course work in the scientific study of human communication sciences and disorders. The undergraduate major (audiology and speech pathology) is preparatory to graduate work and to professional certification in some aspect of speech, language, and hearing disorders. The Masters of Science degree in Speech Language Pathology or Doctor of Audiology is required for professional certificates and employment positions.

For students planning a career in Audiology or Speech-Language Pathology, a special 3+1 curriculum is available, culminating in a joint Bachelor's degree from the University of Tennessee-Knoxville and the University of Tennessee Health Science Center. This 3+1 program provides the required courses for admission to graduate programs in either Audiology or Speech-Language Pathology.

As part of the 3+1 program, students complete General Education and pre-requisite courses in the College Education, Health and Human Sciences (UTK) in 3 years. In the fourth year, the undergraduate requirements for a degree in Audiology and Speech Pathology are completed through the Department of Audiology & Speech Pathology (UTHSC-Knoxville campus). In this model, Audiology & Speech Pathology majors complete 90 credit hours as a UTK student and 30 hours of major classes as a student of UTHSC.

Information about the Audiology and Speech-Language Pathology undergraduate major may be obtained from the departmental office, 578 South Stadium Hall, and students are strongly encouraged to consult with the undergraduate advisor in the department as early as possible in their programs.

Admission

To participate in the 3+1 program, students who have 60 credits at UTK, with a GPA of 3.0 or better, apply for conditional admission to the Department of Audiology & Speech Pathology, College of Allied Health Sciences at UTHSC. Full admission will be granted when students have completed 90 hours with a GPA of 3.0 or better and have completed the course, *ASP 300, Introduction to Communication Sciences and Disorders*, with a grade of 3.0 or better. Once admitted to UTHSC, students complete major education requirements of 30 credit hours as a UTHSC student. Students in the program in Audiology & Speech Pathology at UTHSC remain in residence on the UTK campus. Tuition for this program is the same for both campuses.

Specific Requirements

1. Conditional admission is granted with a minimum cumulative GPA of 3.00 after completion of at least 60 credit hours.
2. Full admission is granted with a minimum GPA of 3.0 after completion of 90 hours and a GPA of 3.0 or better in the course ASP 300 Introduction to Communication Disorders & Sciences
3. Submit official transcripts of above coursework
4. Foreign applicants whose native language is not English must submit results of the TOEFL, with a minimum score of 550 on the written test, 213 on the computer test, or 80 on the TOEFL iBT®.
5. Completed application form. A non-refundable application fee must accompany the application.

Applicants will submit their current official transcript to the Undergraduate Advisor within the Department of Audiology and Speech Pathology to verify that the criteria necessary for admission into the last year of the 3+1 B.S. in Audiology and Speech Pathology at UTHSC have been met. Applicants will be admitted or denied based on these criteria and notified via letter. A list of admitted applicants will be forwarded to the UTHSC Office of Admissions which will send additional instructions to the accepted applicants regarding establishing a student account and transferring to UTHSC for their final year.

Please Note: Admission to the major does not guarantee admission to the graduate program.

Technical Standards

Students who plan to pursue graduate study at UTHSC must have or acquire certain essential skills, functions, and professional attitudes and behaviors. These requisite skills are described in the Technical Standards document noted in the catalog description of the M.S. SLP graduate program.

General Education Competencies¹⁸

1. **Communication** – Students must be able to communicate effectively in a style appropriate to the subject, occasion, and audience.
2. **Mathematics** – Students must be able to apply basic mathematical tools in the solution of real-world problems.
3. **Sciences** – Students must be able to apply principles of the natural, behavioral and social sciences in the solution of problems encountered.
4. **Critical Thinking** - Students must be able to demonstrate their ability to solve problems, construct and present cogent arguments in support of one's views, and understand and evaluate arguments presented by others.
5. **Information Literacy** – Students must be able to seek, access, critically evaluate and appropriately apply information.
6. **Technology** - Students must be able to use technology in communicating, solving problems, and acquiring information in a professional manner.

General education competencies will be measured through tools and strategies such as student performance on oral presentations, written critiques of research papers, and papers written in capstone courses. Math competencies may be measured through tools such as comprehensive math examinations prior to graduation. Students will be apprised of specific strategies to be used to evaluate their mastery of the general education competencies during new student orientation.

Curriculum Summary

The audiology and speech pathology major consists of 120 credit hours total, of which 30 credit hours (outlined below) are completed during the student's final year.

Typical Course Schedule

| Fourth Year (Fall) | Credit Hours |
|--|--------------|
| ASP 303 Introduction to Hearing Science | 3 |
| ASP 305 Phonetics | 3 |
| ASP 306 Anatomy and Physiology of Speech | 3 |
| ASP 320 Speech and Language Development | 3 |
| ASP 455 Problems in Speech Pathology or elective | 3 |

¹⁸ Required for all students pursuing a bachelor's degree at the UTHSC

| Fourth Year (Spring) | Credit Hours |
|--|---------------------|
| ASP 302 Acoustics and Perception | 3 |
| ASP 461 Introduction to Language Pathology in Children | 3 |
| ASP 473 Introduction to Audiologic Assessment | 3 |
| ASP 494 Introduction to Aural Habilitation/Rehab of the Hearing Impaired | 3 |
| ASP 433 Observation of Clinical Practice | 1 |
| ASP 455 Problems in Speech Pathology | 2 |
| TOTAL FOR THE YEAR | 30 |
| TOTAL FOR THE DEGREE | 120 |

BS-ASP Grading Scale

Academic Coursework

| | |
|-----------|--------------------------|
| A | ≥ 0.93 , |
| A- | ≥ 0.90 & < 0.92 |
| B+ | ≥ 0.86 & < 0.90 , |
| B | ≥ 0.82 & < 0.86 , |
| B- | ≥ 0.80 & < 0.82 |
| C+ | ≥ 0.76 & < 0.80 , |
| C | ≥ 0.73 & < 0.76 , |
| C- | ≥ 0.70 & < 0.72 |
| D | ≥ 0.60 & < 0.70 |

Clinical Practicum

| | |
|----------|-----------------------------|
| A | ≥ 0.94 , |
| B | ≥ 0.86 & ≤ 0.93 , |
| C | ≥ 0.78 & < 0.85 , |
| D | ≥ 0.70 & < 0.77 |

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Graduation Requirements

The following requirements must be satisfied to earn the degree of Bachelor of Science with a major in Audiology and Speech-Language Pathology.

1. Satisfactory completion of a minimum of 33¹⁹ hours in academic coursework in ASP.
2. Satisfactory completion of a minimum of 87²⁰ credit hours in general education and pre-major requirements from UT, Knoxville.
3. Students must complete coursework with a "C" or better overall average. Grades of "C" or above are required in all content area coursework and practicum.
4. Students must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.

¹⁹ 30 credit hours during the senior year with 3 credit hours taken earlier as a major pre-requisite.

²⁰ 90 credit hours are completed through UTK (87 credit hours in general education, electives and major pre-requisites plus 3 credit hours taken specifically in ASP as a major pre-requisite).

COURSE DESCRIPTIONS

- ASP 300 Introduction to Communication Sciences and Disorders** *Credit: 3* Nature, etiology, and incidence of speech, hearing, and language disorders. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* Dr. Ashley Harkrider (Spring).
- ASP 302 Acoustics and Perception** *Credit: 3* Basic acoustics. Introduction to psychoacoustics and speech perception. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Molly Erickson (Spring).
- ASP 303 Introduction to Hearing Science** *Credit: 3* Introduction to disorders of hearing. Fundamental aspects of auditory anatomy and physiology. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Mark Hedrick (Fall).
- ASP 305 Phonetics** *Credit: 3* Basic phonetics, including recognition and production of spoken English sounds with analysis of their formation, phonetic transcription of speech, phonetic aspects of dialect variation. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Molly Erickson (Fall).
- ASP 306 Anatomy and Physiology of Speech** *Credit: 3* Anatomy, physiology and embryological development of the speech production mechanism. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Tim Saltuklaroglu (Fall).
- ASP 320 Speech and Language Development** *Credit: 3* Speech and language development in the normal child. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* Dr. Devin Casenhiser (Fall); Dr. Devin Casenhiser (Spring).
- ASP 433 Observation of Clinical Practice** *Credit: 1.* *Mode of delivery:* Didactic and clinical rotation. *Pre-Requisites:* ASP 320 or consent of instructor *Offered:* Fall, Spring. *Instructor of Record:* Dr. Ellen Hamby (Fall); Dr. Ellen Hamby (Spring).
- ASP 435 Introduction to Speech Sound Disorders** *Credit: 3* Etiology, diagnosis, and treatment of articulatory and phonological disorders. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 305 or consent of instructor *Offered:* Fall. *Instructor of Record:* Dr. Jillian McCarthy (Fall).
- ASP 455 Problems in Speech Pathology** *Credit: 1-3* Topics relevant to practice in speech language pathology will vary. *Mode of delivery:* Didactic. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 457 Senior Honors Thesis** *Credit: 1-3* Students in the audiology and speech pathology major work individually under the direction of a tenure-track Faculty member to write an honors thesis. The thesis must be approved by the departmental honors committee. *Mode of delivery:* Independent study. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* As Needed.
- ASP 461 Introduction to Language Pathology in Children** *Credit: 3* Etiology, diagnosis, and treatment of language impairments in children. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 320 or consent of instructor *Offered:* Spring. *Instructor of Record:* Dr. Ann Michael (Spring).
- ASP 473 Introduction to Audiologic Assessment** *Credit: 3* Basic principles of clinical audiometry; pure tone, speech, masking and overview of special auditory tests. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 303 or consent of instructor *Offered:* Spring. *Instructor of Record:* Dr. Patrick Plyler (Spring).
- ASP 491 Foreign Study** *Credit: 1-15* Study in a foreign country. *Mode of delivery:* Independent study. *Pre-Requisites:* Must be approved by the Department Chair May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Ashley Harkrider (Spring).
- ASP 492 Off-Campus Study** *Credit: 1-15* Study in a location off-campus with professional audiologists or speech-language pathologists. *Mode of delivery:* Off-campus. *Pre-Requisites:* Must be approved by the Department Chair May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Ashley Harkrider (Spring).

- ASP 493 Independent Study** *Credit: 1-15 Individualized study on a topic related to the major. Mode of delivery: Independent study. Pre-Requisites: Must be approved by the Department Chair. May be repeated up to 15 credit hours. Offered: Offered every term.*
- ASP 494 Introduction to Aural Habilitation/Rehabilitation of the Hearing Impaired** *Credit: 3*
Introduction to psychosocial aspects, amplification components/characteristics, assistive devices, speech acoustics, speech perception, speech reading, parent-infant, preschool and school years of children, communication impairments/handicaps/remediation of adults, effect of aging/remediation on the elderly, and case studies. *Mode of delivery: Didactic. Pre-Requisites: ASP 303 or consent of instructor. Offered: Fall, Spring. Instructor of Record: Mary Buelher (Fall); Mary Buehler (Spring).*
- ASP 500 Section 001 Thesis** *Credit: 1-15 P/NP Thesis. Mode of delivery: Research based. May be repeated. Offered: Offered every term. Instructor of Record: Dr. Devin Casenhiser (Spring).*
- ASP 500 Section 002 Thesis** *Credit: 1-15 P/NP Thesis. Mode of delivery: Research based. May be repeated. Offered: Offered every term. Instructor of Record: Dr. Mary L. Erickson (Spring).*
- ASP 500 Section 003 Thesis** *Credit: 1-15 P/NP Thesis. Mode of delivery: Research based. May be repeated. Offered: Offered every term. Instructor of Record: Dr. Kristin King (Fall); Dr. Kristin King (Spring).*
- ASP 500 Section 004 Thesis** *Credit: 1-15 P/NP Thesis. Mode of delivery: Research based. May be repeated. Offered: Offered every term. Instructor of Record: Dr. Jillian McCarthy (Spring).*
- ASP 500 Section 005 Thesis** *Credit: 1-15 P/NP Thesis. Mode of delivery: Research based. May be repeated. Offered: Offered every term. Instructor of Record: Dr. Tim Saltuklaroglu (Spring).*
- ASP 500 Section 006 Thesis** *Credit: 1-15 P/NP Thesis. Mode of delivery: Research based. May be repeated. Offered: Offered every term.*
- ASP 502 Registration for Use of Facilities** *Credit: 1-15 P/NP Required for the student not otherwise registered during any term when student uses university facilities and/or Faculty time before degree is completed. Credit Restriction: May not be used toward degree requirements. Mode of delivery: n/a. May be repeated. Offered: Offered every term. Instructor of Record: Dr. Ashley Harkrider (Spring).*
- ASP 506 Neural Bases of Speech and Language** *Credit: 3 Structure and function of central and peripheral nervous systems, role in speech and language. Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Dr. Devin Casenhiser (Fall).*
- ASP 507 Anatomy and Physiology of Hearing** *Credit: 3 Structure and function of the peripheral and central auditory systems, and their roles in mediating auditory processes. Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Dr. Joanna Tampas (Fall).*
- ASP 508 Voice Disorders** *Credit: 3 Etiology, diagnosis, and treatment of organic and functional voice disorders. Mode of delivery: Didactic. Pre-Requisites: ASP 306 or consent of instructor. Offered: Spring, Summer.*
- ASP 510 Section 001 Clinical Education Series in Audiology - Clinical Protocols** *Credit: 1*
Seminar provides a forum for deliberation on issues impacting audiology practice in a variety of clinical and educational settings to help the graduate student clinician transition to their independent practice roles. *Mode of delivery: Didactic and lab. Co-Requisites: ASP 512 or ASP 515 May be repeated up to 7 credit hour. Offered: Fall. Instructor of Record: Dr. Patti Johnstone (Fall).*
- ASP 510 Section 002 Clinical Education Series in Audiology - Auditory Processing** *Credit: 1*
Seminar provides a forum for deliberation on issues impacting audiology practice in a variety of clinical and educational settings to help the graduate student clinician transition to their independent practice roles. *Mode of delivery: Didactic and lab. Co-Requisites: ASP 512 or ASP 515 May be repeated up to 7 credit hour. Offered: Spring. Instructor of Record: Dr. Patti Johnstone (Spring).*

- ASP 510 Section 003 Clinical Education Series in Audiology - Cochlear Implants** *Credit: 1*
Seminar provides a forum for deliberation on issues impacting audiology practice in a variety of clinical and educational settings to help the graduate student clinician transition to their independent practice roles. *Mode of delivery:* Didactic and lab. *Co-Requisites:* ASP 512 or ASP 515 May be repeated up to 7 credit hour *Offered:* Summer.
- ASP 510 Section 004 Clinical Education Series in Audiology - Private Practice** *Credit: 1* Seminar provides a forum for deliberation on issues impacting audiology practice in a variety of clinical and educational settings to help the graduate student clinician transition to their independent practice roles. *Mode of delivery:* Didactic and lab. *Co-Requisites:* ASP 512 or ASP 515 May be repeated up to 7 credit hour *Offered:* Fall. *Instructor of Record:* Dr. Patti Johnstone (Fall).
- ASP 510 Section 005 Clinical Education Series in Audiology - Educational Audiology** *Credit: 1*
Seminar provides a forum for deliberation on issues impacting audiology practice in a variety of clinical and educational settings to help the graduate student clinician transition to their independent practice roles. *Mode of delivery:* Didactic and ab. *Co-Requisites:* ASP 512 or ASP 515 May be repeated up to 7 credit hour *Offered:* Fall. *Instructor of Record:* Dr. Patti Johnstone (Fall).
- ASP 510 Section 006 Clinical Education Series in Audiology - Research Colloquium** *Credit: 1*
Seminar provides a forum for deliberation on issues impacting audiology practice in a variety of clinical and educational settings to help the graduate student clinician transition to their independent practice roles. *Mode of delivery:* Didactic and lab. *Co-Requisites:* ASP 512 or ASP 515 May be repeated up to 7 credit hour *Offered:* Spring. *Instructor of Record:* Dr. Patti Johnstone (Spring).
- ASP 510 Section 007 Clinical Education Series in Audiology - Hot Topics** *Credit: 1* Seminar provides a forum for deliberation on issues impacting audiology practice in a variety of clinical and educational settings to help the graduate student clinician transition to their independent practice roles. *Mode of delivery:* Didactic and lab. *Co-Requisites:* ASP 512 or ASP 515 May be repeated up to 7 credit hour *Offered:* Offered as needed, spring term (not currently offered).
- ASP 510 Section 008 Clinical Education Series in Audiology - Aural Re/Habilitation** *Credit: 1*
Seminar provides a forum for deliberation on issues impacting audiology practice in a variety of clinical and educational settings to help the graduate student clinician transition to their independent practice roles. *Mode of delivery:* Didactic and lab. *Co-Requisites:* ASP 512 or ASP 515 May be repeated up to 7 credit hour *Offered:* Offered every term. *Instructor of Record:* Dr. Patti Johnstone (Fall); Dr. Patti Johnstone (Spring).
- ASP 511 Introduction to Research in Speech and Hearing** *Credit: 3* Analysis of research techniques, fundamentals of statistics, application of statistics, and completion of a proposal and hypothetical pilot research project. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Patti Johnstone (Fall).
- ASP 512 Clinical Practice in Audiology** *Credit: 1-4. Mode of delivery:* Practicum. *Co-Requisites:* ASP 546 or consent of instructor May be repeated up to 24 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Nancy Schay (Fall); Dr. Nancy Schay (Spring).
- ASP 513 Appraisal of Speech and Language Disorders** *Credit: 3* Diagnostic procedures for children and adults with speech and language problems including observation and practice with diagnostic tests. *Offered:* (not currently offered).
- ASP 514 Stuttering** *Credit: 3* Nature, appraisal, and treatment of stuttering. *Mode of delivery:* Didactic. *Offered:* Spring, Summer.
- ASP 515 Practicum in Aural Rehabilitation** *Credit: 1-4. Mode of delivery:* Practicum. *Co-Requisites:* Corequisite(s): ASP 510, Section 008 or consent of instructor May be repeated up to 9 credit hours *Offered:* Offered every term. *Instructor of Record:* Emily Noss (Fall); Emily Noss (Spring).

- ASP 518 Adult Neurogenic Communication Disorders I** *Credit: 3* This course will assist students in developing basic biological, social, clinical, and theoretical understandings of commonly observed neurological impairments. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Ellen Hamby (Fall).
- ASP 519 Adult Neurogenic Communication Disorders II** *Credit: 3* This course will assist students in developing an advanced understanding of the neural, behavioral, social, clinical, and theoretical understandings of acquired neurological cognitive-linguistic impairments. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 506 or consent of instructor *Offered:* Spring. *Instructor of Record:* Dr. Kristin King (Spring).
- ASP 522 Advanced Speech Sound Disorders** *Credit: 3* Current research in diagnosis and management of speech sound disorders. *Pre-Requisites:* ASP 435 or consent of instructor *Offered:* (not currently offered).
- ASP 523 Advanced Voice Disorders** *Credit: 3* Current research in diagnosis and management of voice disorders. Multicultural, gender, and age-related issues. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 440 or consent of instructor *Offered:* Fall. *Instructor of Record:* Dr. Molly Erickson (Fall).
- ASP 526 Dysphagia** *Credit: 3* Clinical diagnosis, evaluation, and treatment of adult swallowing disorders and critical interpretation of research literature on dysphagia. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 506 or consent of instructor *Offered:* Spring. *Instructor of Record:* Dr. Carren Mills (Spring).
- ASP 531 Advanced Stuttering** *Credit: 3* Current significant research in stuttering. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 431 or consent of instructor *Offered:* Fall. *Instructor of Record:* Dr. Tim Saltuklaroglu (Fall).
- ASP 533 Advanced Clinical Practice in Speech-Language Pathology** *Credit: 1-4* Enrollment for fewer than 2 hours must have prior departmental approval. *Mode of delivery:* Clinical practicum. *Pre-Requisites:* ASP 433, Observation of Clinical Practice, or consent of instructor May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Ann Michael (Fall); Dr. Ann Michael (Spring).
- ASP 534 Clinical Education Series** *Credit: 1-4.* *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Consent of instructor May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Ann Michael (Fall); Dr. Ann Michael (Spring).
- ASP 537 Advanced Clinical Practice in Speech-Language Pathology: Off-Campus Sites** *Credit: 1-15* Enrollment for fewer than 2 hours must have prior departmental approval. *Mode of delivery:* Clinical practicum. *Pre-Requisites:* 100 hours clinical experience and consent of instructor May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Ann Michael (Fall); Dr. Ann Michael (Spring).
- ASP 539 Motor Speech Disorders** *Credit: 3* Neuromotor organization for speech production; types of motor speech disorders and associated neuromuscular symptomology; diagnosis and management of motor speech disorders. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 506 or consent of instructor *Offered:* Fall. *Instructor of Record:* Dr. Kristin King (Fall).
- ASP 541 Structural Disorders of Speech** *Credit: 2* Etiology, diagnosis and clinical management of craniofacial and resonance disorders. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Kristin King (Fall).
- ASP 542 Hearing Disorders** *Credit: 3* Effects of heredity, development/aging, diseases, and physical agents on hearing. *Mode of delivery:* Didactic. *Offered:* Summer. *Instructor of Record:* Dr. Mark Hedrick (Fall).

- ASP 543 Amplification Technology** *Credit: 3* Description of hearing aid circuits, components and performance characteristics. Electroacoustical and real-ear analysis of hearing aids. Coupler material and geometry effects. Practical experience in troubleshooting, repair, and construction of hearing aids. *Mode of delivery:* Didactic. *Co-Requisites:* ASP 507 or consent of instructor *Offered:* Fall. *Instructor of Record:* Dr. Patrick Plyler (Fall).
- ASP 544 Amplification for Adults with Hearing Impairment** *Credit: 3* Speech acoustics/psychoacoustics. Influence of noise, reverberation and auditory pathology on speech perception. Strategies for selecting amplification. Psychological considerations. Orientation and counseling. Dispensing models. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 543 or consent of instructor *Offered:* Fall. *Instructor of Record:* Dr. Patrick Plyler (Fall).
- ASP 545 Sound Measurement Techniques and Hearing Conservation** *Credit: 2* Techniques of measurement and analysis of sound: hearing conservation in schools and industry. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Jong Ho Won (Spring).
- ASP 546 Audiologic Assessment** *Credit: 3* Theoretical bases for behavioral audiometry and acoustic immittance measurement. *Mode of delivery:* Didactic. *Co-Requisites:* ASP 507 or consent of instructor *Offered:* Fall. *Instructor of Record:* Dr. Steve Doettl (Fall).
- ASP 547 Section 001 Special Problems in Audiology** *Credit: 1-3* Special Problems in Audiology. *Mode of delivery:* Seminar. May be repeated up to 6 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Ashley Harkrider (Spring).
- ASP 547 Section 002 Special Problems in Audiology** *Credit: 1-3* Special Problems in Audiology. *Mode of delivery:* Seminar. May be repeated up to 6 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Mark S. Hedrick (Spring).
- ASP 547 Section 003 Special Problems in Audiology** *Credit: 1-3* Special Problems in Audiology. *Mode of delivery:* Seminar. May be repeated up to 6 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Patti M. Johnstone (Spring).
- ASP 547 Section 004 Special Problems in Audiology** *Credit: 1-3* Special Problems in Audiology. *Mode of delivery:* Seminar. May be repeated up to 6 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Patrick N. Plyler (Spring).
- ASP 547 Section 005 Special Problems in Audiology** *Credit: 1-3* Special Problems in Audiology. *Mode of delivery:* Seminar. May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 547 Section 006 Special Problems in Audiology** *Credit: 1-3* Special Problems in Audiology. *Mode of delivery:* Seminar. May be repeated up to 6 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Jong Ho Won (Spring).
- ASP 552 Current Trends in Speech Pathology** *Credit: 2-3* Current significant research in speech pathology. Topics vary. Recommended Background: 9 hours in speech pathology. *Mode of delivery:* Seminar. May be repeated with consent of department up to 9 credit hours *Offered:* (not currently offered). *Instructor of Record:* NOT CURRENTLY OFFERED (Spring).
- ASP 553 Research in Speech-Language Pathology** *Credit: 2* Analysis of research techniques, fundamentals of statistics, application of statistics, and completion of a proposal and hypothetical pilot research project. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Tim Saltuklaroglu (Spring).
- ASP 554 Language Analysis** *Credit: 2* This course will equip students with the knowledge and skills necessary to elicit, transcribe, code, analyze, and interpret language and/or speech samples for both clinical and research applications. Students will learn to use software to assist with the task, and will analyze speech with attention paid to form, content and use of language. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Devin Casenhiser (Spring).

- ASP 555 Special Problems in Speech-Language Pathology** *Credit: 1-3* Special Problems in Speech-Language Pathology. *Mode of delivery:* Seminar. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered as needed. *Instructor of Record:* NOT CURRENTLY OFFERED (*Spring*).
- ASP 558 Augmentative and Alternative Communication** *Credit: 3* Current theories and approaches to assessment and intervention for individuals with difficulty producing speech. *Mode of delivery:* Didactic. *Offered:* Spring, Summer.
- ASP 561 Child Language Disorders** *Credit: 3* Current literature on assessment and intervention techniques for young language learners. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Jillian McCarthy (*Fall*).
- ASP 563 Language Disorders: Birth to Three** *Credit: 3* Overview of family-focused, transdisciplinary intervention process. Assessment/treatment of infants, toddlers, and preschoolers. Description of disabilities and resulting communication disorder. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 461 or consent of instructor *Offered:* Summer (not currently offered).
- ASP 573 Pediatric Audiology for Education Professionals** *Credit: 3* Basic principles in the identification and management of hearing loss in infants and children; social and psychological concomitants of auditory disorder; genetic hearing loss and other high risk types of impairment related to hearing; educational alternatives and state and federal guidelines. Credit Restriction: Students with credit in ASP 574 cannot receive credit for ASP 573. *Mode of delivery:* Didactic. *Offered:* Summer.
- ASP 574 Pediatric Audiology for Audiology Majors** *Credit: 3* Theoretical and practical considerations in evaluation and treatment of hearing loss in infants and children. Audiological intervention in case management of hearing-impaired child; amplification, educational alternatives, and state and federal guidelines. Registration Restriction(s): Audiology major. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 507, ASP 546, and ASP 576 *Offered:* Summer.
- ASP 576 Physiologic Assessment of the Auditory System I** *Credit: 4 (3-1)* Otoacoustic emissions, electrocochleography, and auditory brainstem responses. Anatomical origins, principles, and applications. Use of these responses in evaluation of auditory function and determination of site-of-lesion. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* ASP 507 and 546 or consent of instructor *Offered:* Spring. *Instructor of Record:* Dr. Joanna Tampas (*Spring*).
- ASP 577 Vestibular Disorders** *Credit: 4* Anatomy, physiology, and pathophysiology of vestibular system and other systems that contribute to balance. Practical experience in electronystagmography. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* ASP 507 or consent of instructor *Offered:* Spring. *Instructor of Record:* Dr. Steve Doettl (*Spring*).
- ASP 580 Medical Speech-Language Pathology** *Credit: 2* This course will address medical speech pathology for pediatrics and adults, including medical terminology, ethical and end of life issues, basic procedures and competencies in a medical setting, common medical diagnoses, unusual/less common medical diagnoses, trachs, vents, speaking valves, and alternative means of functional communication in a medical setting. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Kristin King (*Spring*).
- ASP 581 School Speech-Language Pathology** *Credit: 2* Organization and implementation of speech and language programs in schools. *Mode of delivery:* Didactic. *Offered:* Summer.
- ASP 583 Physiologic Assessment of the Auditory System II** *Credit: 3* Middle-latency, long-latency, and event-related potentials. Neurophysiological mechanisms, principles, and applications. Use of these potentials in evaluation of neurological and cognitive function. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 576 or consent of instructor *Offered:* Fall. *Instructor of Record:* Dr. Ashley Harkrider (*Fall*).

- ASP 584 Amplification for Children with Hearing Impairment** *Credit: 3* Study of strategies for selecting and fitting amplification systems for children; outcome measures and service coordination. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 543, ASP 544, and ASP 574, or consent of instructor *Offered:* Spring.
- ASP 585 Cochlear Implants** *Credit: 3* once per year, Overview of cochlear implants, focusing on theory of auditory stimulation and cochlear implant systems; candidacy, surgical preparation, and follow-up/outcome measures; the rehabilitation process; and cochlear implant case presentations. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 507 or consent of instructor *Offered:* Spring.
- ASP 586 Standards and Practice Issues in Audiology** *Credit: 3* Overview of professional practice standards, ethics, medical/legal issues, business practices, and reimbursement procedures in audiology. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Mark Hedrick (Spring).
- ASP 590 Section 001 Professional Series in SLP - Counseling** *Credit: 1* Topics vary. This seminar will address a topic in speech- language pathology in detail. Students will be expected to conduct literature searches, discuss evidence based practice, and recent research on the topic area. *Mode of delivery:* Didactic. May be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Ann Michael (Fall); Dr. Ann Michael (Spring).
- ASP 590 Section 002 Professional Series in SLP - AAC** *Credit: 1* Topics vary. This seminar will address a topic in speech- language pathology in detail. Students will be expected to conduct literature searches, discuss evidence based practice, and recent research on the topic area. *Mode of delivery:* Didactic. May be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Jillian McCarthy (Fall).
- ASP 590 Section 003 Professional Series in SLP - Speech Sound Disorders** *Credit: 1* Topics vary. This seminar will address a topic in speech- language pathology in detail. Students will be expected to conduct literature searches, discuss evidence based practice, and recent research on the topic area. *Mode of delivery:* Didactic. May be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Sue Hume (Fall).
- ASP 590 Section 004 Professional Series in SLP - Language and Literacy** *Credit: 1* Topics vary. This seminar will address a topic in speech- language pathology in detail. Students will be expected to conduct literature searches, discuss evidence based practice, and recent research on the topic area. *Mode of delivery:* Didactic. May be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Ilsa Schwarz (Fall).
- ASP 590 Section 005 Professional Series in SLP - FEES** *Credit: 1* Topics vary. This seminar will address a topic in speech- language pathology in detail. Students will be expected to conduct literature searches, discuss evidence based practice, and recent research on the topic area. *Mode of delivery:* Didactic. May be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Carren Mills (Fall).
- ASP 590 Section 006 Professional Series in SLP - Pediatric Feeding and Swallowing** *Credit: 1* Topics vary. This seminar will address a topic in speech- language pathology in detail. Students will be expected to conduct literature searches, discuss evidence based practice, and recent research on the topic area. *Mode of delivery:* Didactic. May be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Kristin King (Fall).
- ASP 590 Section 007 Professional Series in SLP - Adult Cognition** *Credit: 1* Topics vary. This seminar will address a topic in speech- language pathology in detail. Students will be expected to conduct literature searches, discuss evidence based practice, and recent research on the topic area. *Mode of delivery:* Didactic. May be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Ellen Hamby (Spring).

- ASP 590 Section 008 Professional Series in SLP - Speech and Myofunctional Therapy** *Credit: 1*
Topics vary. This seminar will address a topic in speech- language pathology in detail. Students will be expected to conduct literature searches, discuss evidence based practice, and recent research on the topic area. *Mode of delivery:* Didactic. May be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Kristin King (*Spring*).
- ASP 590 Section 009 Professional Series in SLP - Special Cases in Fluency Disorders** *Credit: 1*
Topics vary. This seminar will address a topic in speech- language pathology in detail. Students will be expected to conduct literature searches, discuss evidence based practice, and recent research on the topic area. *Mode of delivery:* Didactic. May be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* NOT CURRENTLY OFFERED (*Spring*).
- ASP 590 Section 010 Professional Series in SLP - Form and Function in Language** *Credit: 1*
Topics vary. This seminar will address a topic in speech- language pathology in detail. Students will be expected to conduct literature searches, discuss evidence based practice, and recent research on the topic area. *Mode of delivery:* Didactic. May be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Devin Casenhiser (*Spring*).
- ASP 590 Section 011 Professional Series in SLP - Literacy and Deafness** *Credit: 1* Topics vary. This seminar will address a topic in speech- language pathology in detail. Students will be expected to conduct literature searches, discuss evidence based practice, and recent research on the topic area. *Mode of delivery:* Didactic. *Offered:* As Needed.
- ASP 591 Foreign Study** *Credit: 1-19* Participation in ongoing or non-dissertational research, clinical practicum, coursework or independent study outside the United States. *Mode of delivery:* Independent study. May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Ashley Harkrider (*Spring*).
- ASP 592 Off-Campus Study** *Credit: 1-15* Participation in ongoing or non-dissertational research or independent study with off-campus advisor. *Mode of delivery:* Independent study. May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Ashley Harkrider (*Fall*); Dr. Ashley Harkrider (*Spring*).
- ASP 593 Section 001 Independent Study** *Credit: 1-15* Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Devin Casenhiser (*Fall*); Dr. Devin Casenhiser (*Spring*).
- ASP 593 Section 002 Independent Study** *Credit: 1-15* Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Molly Erickson (*Fall*); Dr. Mary L. Erickson (*Spring*).
- ASP 593 Section 003 Independent Study** *Credit: 1-15* Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Ashley Harkrider (*Spring*).
- ASP 593 Section 004 Independent Study** *Credit: 1-15* Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Mark Hedrick (*Fall*); Dr. Mark S. Hedrick (*Spring*).
- ASP 593 Section 005 Independent Study** *Credit: 1-15* Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Patti M. Johnstone (*Spring*).
- ASP 593 Section 006 Independent Study** *Credit: 1-15* Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Kristin King (*Spring*).

- ASP 593 Section 007 Independent Study** *Credit:* 1-15 Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term.
- ASP 593 Section 008 Independent Study** *Credit:* 1-15 Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Patrick N. Plyler (*Spring*).
- ASP 593 Section 009 Independent Study** *Credit:* 1-15 Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Tim Saltuklaroglu (*Fall*); Dr. Tim Saltuklaroglu (*Spring*).
- ASP 593 Section 010 Independent Study** *Credit:* 1-15 Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term.
- ASP 593 Section 011 Independent Study** *Credit:* 1-15 Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term.
- ASP 593 Section 012 Independent Study** *Credit:* 1-15 Independent study in speech, language, or hearing related topics. *Mode of delivery:* Independent study. May be repeated up to 15 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Jong Ho Won (*Spring*).
- ASP 594 Aural Habilitation/Rehabilitation of the Hearing-Impaired** *Credit:* 3 Study of models of aural habilitation, counseling, group and individual amplification systems, classroom/speech acoustics, central auditory problems, therapy methods for habilitation and rehabilitation, speech reading, school-based programs, programs for adults and the elderly; student research reports/case studies. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Elizabeth Humphrey (*Fall*).
- ASP 602 Psychoacoustics** *Credit:* 3 Auditory perception and reception of acoustic stimuli. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 507 or consent of instructor *Offered:* Fall, Spring. *Instructor of Record:* Dr. Jong Ho Won (*Fall*); Dr. Jong Ho Won (*Spring*).
- ASP 604 Molecular Genetics and Pharmacology of Hearing** *Credit:* 3 Study of genetics, pharmacology, and general cellular processes as they relate to hearing. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 507 or consent of instructor *Offered:* Fall. *Instructor of Record:* Dr. Mark Hedrick (*Fall*).
- ASP 605 Speech Perception and Hearing Impairment** *Credit:* 3 Study of perception of speech stimuli, with particular emphases on the effects of hearing impairment on perception. *Mode of delivery:* Didactic. *Pre-Requisites:* Consent of instructor. *Offered:* Spring. *Instructor of Record:* Dr. Mark Hedrick (*Spring*).
- ASP 609 Advanced Topics in Speech Science** *Credit:* 3 Topics vary. *Mode of delivery:* Seminar. May be repeated up to 6 credit hours *Offered:* (not currently offered). *Instructor of Record:* NOT CURRENTLY OFFERED (*Spring*).
- ASP 613 Externship in Audiology** *Credit:* 1-9 Off-campus clinical training experience. *Mode of delivery:* Clinical practicum. May be repeated up to 36 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Patti Johnstone (*Fall*); Dr. Patti Johnstone (*Spring*).
- ASP 626 Advanced Topics in Neurologically-based Communication Disorders** *Credit:* 3 Topics vary. *Mode of delivery:* Seminar. *Pre-Requisites:* ASP 518 and ASP 526 May be repeated up to 6 credit hours *Offered:* (not currently offered). *Instructor of Record:* NOT CURRENTLY OFFERED (*Spring*).
- ASP 652 Advanced Topics in Speech and Language** *Credit:* 3 Topics vary. *Mode of delivery:* Seminar. May be repeated up to 6 credit hours *Offered:* (not currently offered). *Instructor of Record:* NOT CURRENTLY OFFERED (*Spring*).

- ASP 655 Section 001 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 655 Section 002 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 655 Section 003 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 655 Section 004 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 655 Section 005 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Patti Johnstone (*Spring*).
- ASP 655 Section 006 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 655 Section 007 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 655 Section 008 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 655 Section 009 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 655 Section 010 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 655 Section 011 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 655 Section 012 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory*
Supervised experience in college teaching. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Offered every term.
- ASP 656 Section 001 Directed Research** *Credit: 1-4 Directed Research. Mode of delivery:* Research based. May be repeated up to 9 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Devin Casenhiser (*Fall*); Dr. Devin Casenhiser (*Spring*).
- ASP 656 Section 002 Directed Research** *Credit: 1-4 Directed Research. Mode of delivery:* Research based. May be repeated up to 9 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Mary L. Erickson (*Spring*).
- ASP 656 Section 003 Directed Research** *Credit: 1-4. Mode of delivery:* Research based. May be repeated up to 9 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Ashley Harkrider (*Fall*); Dr. Ashley Harkrider (*Spring*).

- ASP 656 Section 004 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Mark S. Hedrick (Spring).*
- ASP 656 Section 005 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patti Johnstone (Fall); Dr. Patti Johnstone (Spring).*
- ASP 656 Section 006 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Kristin King (Spring).*
- ASP 656 Section 007 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 656 Section 008 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patrick Plyler (Fall); Dr. Patrick N. Plyler (Spring).*
- ASP 656 Section 009 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Tim Saltuklaroglu (Spring).*
- ASP 656 Section 010 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 656 Section 011 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 656 Section 012 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Jong Ho Won (Spring).*
- ASP 658 Section 001 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Ashley Harkrider (Spring).*
- ASP 658 Section 002 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Mark S. Hedrick (Spring).*
- ASP 658 Section 003 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patti M. Johnstone (Spring).*
- ASP 658 Section 004 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patrick N. Plyler (Spring).*
- ASP 658 Section 005 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 658 Section 006 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Jong Ho Won (Spring).*
- ASP 659 Section 001 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Devin Casenhiser (Spring).*
- ASP 659 Section 002 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: Independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Mary L. Erickson (Spring).*

- ASP 659 Section 003 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Kristin King (Spring).*
- ASP 659 Section 004 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: Independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 659 Section 005 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: Independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Tim Saltuklaroglu (Spring).*
- ASP 659 Section 006 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: Independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 660 Section 001 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Ashley Harkrider (Fall); Dr. Ashley Harkrider (Spring).*
- ASP 660 Section 002 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Mark S. Hedrick (Spring).*
- ASP 660 Section 003 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patti M. Johnstone (Spring).*
- ASP 660 Section 004 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patrick N. Plyler (Spring).*
- ASP 660 Section 005 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: independent study. May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 660 Section 006 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Jong Ho Won (Spring).*
- ASP 661 Advanced Study in Child Language** *Credit: 3 Topics vary. Mode of delivery: Didactic. Pre-Requisites: ASP 561 or consent of instructor May be repeated up to 6 credit hours Offered: Fall. Instructor of Record: Dr. Ilsa Schwarz (Fall).*
- ASP 663 Advanced Topics in Aural Habilitation/Rehabilitation** *Credit: 3 Synthesis of information on audiologic habilitation and rehabilitation cases, particularly focusing on patient-centered care and counseling in audiology. Mode of delivery: Didactic. Pre-Requisites: ASP 543, ASP 544, ASP 584, and ASP 594 or consent of instructor Offered: Spring. Instructor of Record: Dr. Elizabeth Humphrey (Spring).*
- ASP 664 Current Trends in Amplification** *Credit: 3 In depth analysis of current trends in amplification research and technology. Mode of delivery: Didactic. Offered: Spring. Instructor of Record: Dr. Patrick Plyler (Spring).*

CLINICAL LABORATORY SCIENCES

Kathy Kenwright, M.S., Chair

The Department of Clinical Laboratory Sciences offers the following degree programs: Bachelor of Science in Medical Laboratory Science (BSMLS²¹; including an online option for medical laboratory technicians), Master of Cytopathology Practice (MCP), and a Master of Science in Clinical Laboratory Sciences (MSCLS; with both an Advanced Practice option and a Post-professional Graduate option).

Academic Calendar for Clinical Laboratory Sciences Programs

| Date | Activity | Class |
|--|--|---|
| Monday, July 1, 2013 | Tuition & fees due Fall 1 | MCP II; MT II; All MSCLS MLS II online |
| Monday, July 1, 2013 | Fall term begins for returning students | MCP II; MT II; All MSCLS MLS II online |
| <i>Thursday, July 4, 2013</i> | <i>University Holiday (offices closed)</i> | <i>all</i> |
| Monday, August 12, 2013 | Last day to register Fall 3 | All new students |
| Monday, August 12, 2013 | Tuition and fees due Fall 3 | All new students |
| August 14 -17, 2013 | Orientation | All new students |
| Monday, August 19, 2013 | Fall classes begin for new students | All new students |
| August 26-Sept 2, 2013 | Summer-Fall Break | MCP II; MT II |
| <i>Monday, September 2, 2013</i> | <i>Labor Day (Offices closed)</i> | |
| Tuesday, September 3, 2013 | Classes resume | MCP II; MT II, AP I |
| Friday, September 6, 2013 | Classes end | MLS II online |
| September 9 – 20, 2013 | Fall Break | MLS II online |
| Monday, September 23, 2013 | Classes resume | MLS II online |
| Monday, October 28, 2013 | Histology Clinical Rotations begin | MCP II |
| Friday, November 1, 2013 | Spring 2 registration begins | all |
| November 11-15, 2013 | Exam week | MT I, MT II, AP I |
| November 25 -29, 2013 | Fall Break | MT I; MT II, AP I |
| <i>Thursday, November 28 – Friday, November 29, 2013</i> | <i>Thanksgiving break (offices closed)</i> | |
| Friday, December 6, 2013 | Last day of classes | MCP I |
| December 9-13, 2013 | Exam Week | MCP I |
| Friday, December 13, 2013 | Histology Clinical Rotations end | MCP II |
| Friday, December 13, 2013 | Last day of classes | AP I, MT II and MLS I online |
| Friday, December 13, 2013 | Graduation | AP II; MS CLS; and MLS 2 Online |
| Monday, December 16, 2013 | Begin Winter Break | MCP I & II; MT I; MT II, MLS I online |
| <i>Monday, December 23- Friday, December 27, 2013</i> | <i>University Holiday (offices closed)</i> | |
| <i>Wednesday, January 1, 2014</i> | <i>University Holiday (offices closed)</i> | |

²¹ Formerly the Bachelor of Science in Medical Technology (BSMT)

| Date | Activity | Class |
|---|--|--|
| Thursday, January 2, 2014 | Tuition and Fees Due Spring 2 | All |
| Monday, January 6, 2014 | Classes begin Spring term | MCP I & II; MT 1 & II, AP I, MS CLS MLS online |
| <i>Monday, January 20, 2014</i> | <i>University Holiday (offices closed)</i> | |
| Monday, March 17 – Friday, March 21, 2014 | Spring Break | MCP I & II; MT I; MLS online |
| Monday, March 24, 2014 | Cytology Clinical Rotations begin | MCP II |
| <i>Friday, April 18, 2014</i> | <i>Spring Holiday (offices closed)</i> | |
| Friday, May 16, 2014 | Cytology Clinical Rotations end | MCP II |
| Friday, May 23, 2014 | Classes end | MCP I & II; MT I |
| <i>Monday, May 26, 2014</i> | <i>Memorial Day (offices closed)</i> | |
| May 27-29, 2014 | Final Exams | MCP I & II; MT 1 |
| Friday, May 30, 2014 | Graduation | MCP II; MT II |
| <i>Friday, July 4, 2014</i> | <i>Independence Day (offices closed)</i> | |

BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCE (BSMLS)

Kathy Kenwright, M.S., Program Director

Sherri D. Flax, M.D., Medical Advisor

Program Objectives

The curriculum is designed to produce graduates who reflect the current expectations of the profession and of employers, particularly with respect to the need for problem solving and supervisory skills in the laboratory. Graduates of the program are prepared to function effectively as medical laboratory scientists (MLS) in any laboratory setting and eventually to assume positions of responsibility in laboratory management, teaching and consulting.

Curriculum Description

The curriculum of the medical laboratory science program is a two-year professional program. Students complete two years of pre-requisite courses at other colleges or universities, and then complete two years (21 months) of professional coursework on the Memphis campus of the University of Tennessee Health Science Center. Clinical experience is integrated throughout the curriculum. The curriculum is designed so that there are opportunities for interactions with other health sciences students, and for integration of professional principles with the techniques of medical laboratory science.

Students are required to pass either a comprehensive examination upon completion of the program covering all courses in the curriculum, or comprehensive examinations at intervals as specified by faculty. Examinations may be written, practical, or both. Where a sequence of courses is described below, each course in the sequence is prerequisite to the subsequent course. Generally, for promotion to the next term or to graduation, all courses in each term must be completed with a passing grade.

Admission Requirements

To be eligible for consideration for admission into the BSMLS program, applicants must meet the following requirements:

1. Completion of the following 61 credit hours of pre-requisite coursework with a grade of "C" or better in each course: (Note: Science courses that are delivered in a virtual or online format are not acceptable.)

| Prerequisite Course Work | Credit Hours |
|--|--------------|
| English Composition | 3 |
| Humanities | 3 |
| General Chemistry | 8 |
| Organic Chemistry ²² | 8 |
| General Biology or Zoology | 8 |
| Human Physiology or Anatomy/Physiology | 4 |
| Microbiology | 4 |
| College Algebra or Statistics | 3 |
| Social Science | 3 |
| Electives | 17 |
| TOTAL | 61 |

2. Submit official transcripts of above coursework.
3. Personal interview with faculty members.
4. Foreign applicants whose native language is not English must submit results of the TOEFL, with a minimum score of 550 on the written test, 213 on the computer test or 80 on the TOEFL iBT®
5. Completed application form including an essay describing the applicant's reasons for choosing the profession and their career goals. A non-refundable application fee must accompany the application.
6. Pre-professional advisory committee recommendation from college or university attended OR three letters of recommendation from previous college instructors.
7. Ability to meet published technical standards of the College of Allied Health Sciences and the professional practice of Medical Laboratory Science.

Applications are accepted online at <http://www.uthsc.edu/admissions/cahs.php>.

Application deadlines

- Early deadline: December 1
- Regular deadline: April 1
- Late deadline: July 1

Health Requirements

In addition to general University of Tennessee Health Science Center requirements, medical laboratory science students are required to have an annual skin test for tuberculosis and to be immunized against *Neisseria meningitides* and the Hepatitis B virus. Information about fulfilling these requirements is provided during orientation.

²² One semester of Organic Chemistry and one semester of Biochemistry is acceptable

Technical Standards

Medical Laboratory Science students must have or must be able to acquire certain essential skills, functions and professional attitudes and behavior as described for the College and the Program in order to progress through the curriculum and to graduate. A description of the technical standards for students in the College of Allied Health Sciences is included in the college overview section on this catalog. The additional Specific Technical Standards for Medical Technology Students include the:

- Ability to assess and make appropriate judgments regarding lab services and patient outcomes.
- Ability to prioritize and perform laboratory testing.
- Ability to adapt to a variety of patient care situations, including crises.
- Ability to communicate effectively in English, orally and in writing.
- Ability to participate in discussion in the classroom, the clinical arena and with colleagues and patients.
- Ability to acquire information developed through didactic instruction and clinical experiences.
- Ability to understand reading assignments and to search and evaluate literature.
- Ability to prepare written assignments and maintain written records.
- Ability to perform duties and assignments in a timely fashion while under stress and in a variety of settings.
- Ability to meet deadlines.
- Ability to use the computer for instructional assignments and patient care activities.

Physical And Motor Skills

- Dexterity with both wrists, hands and arms, and dexterity with all fingers.
- Ability to grasp, pinch, push, pull, finger, hold, extend, rotate, cut.
- Ability to obtain and/or verify patient samples.
- Possess sufficient stamina to tolerate physically taxing workloads.
- Ability to operate/manipulate and effectively evaluate the status of laboratory instruments and equipment.

Sensory Skills

- Visual acuity (corrected to 20/40); visual perception with respect to depth and color.
- Ability to palpate.

Cognitive, Integrative, Quantitative Skills

- Ability to measure, calculate, analyze, interpret, synthesize and evaluate as applicable to clinical laboratory practice.
- Ability to solve one or more problems within specific time frames, which are often short.
- Ability to comprehend spatial relationships.

Affective, Behavioral and Social Skills

- Ability to function as part of a team (communicates effectively in English, consult, negotiate, share, delegate.)
- Ability to delegate to and supervise others.
- Adherence to safety guidelines for self and others.
- Compliance with standards and regulations required by external agencies.
- Ability to follow instructions/procedures with accuracy and precision
- Ability to maintain intellectual and emotional stability and maturity under stress, while also maintaining appropriate performance standards.
- Learn and exhibit professional attributes.

General Education Competencies²³

1. **Communication** – Students must be able to communicate effectively in a style appropriate to the subject, occasion, and audience.
2. **Mathematics** – Students must be able to apply basic mathematical tools in the solution of real-world problems.
3. **Sciences** – Students must be able to apply principles of the natural, behavioral and social sciences in the solution of problems encountered.
4. **Critical Thinking** - Students must be able to demonstrate their ability to solve problems, construct and present cogent arguments in support of one's views, and understand and evaluate arguments presented by others.
5. **Information Literacy** – Students must be able to seek, access, critically evaluate and appropriately apply information.
6. **Technology** - Students must be able to use technology in communicating, solving problems, and acquiring information in a professional manner.

General education competencies will be measured through tools and strategies such as student performance on oral presentations, written critiques of research papers, and papers written in capstone courses. Math competencies may be measured through tools such as comprehensive math examinations prior to graduation. Students will be apprised of specific strategies to be used to evaluate their mastery of the general education competencies during new student orientation.

Scholarships

The following scholarships are available to students entering the Medical Laboratory Science program:

- UTNAA Scholarship
- Chancellor's Scholarship
- Ann Bell Scholarship
- Elam Scholarship
- Elizabeth Club Scholarship

Information about these scholarships is available in the college section of the catalog.

²³ Required of all students at UTHSC enrolled in one of the Bachelor of Science degree programs

The Professional Curriculum - BSMLS

The curriculum for a Bachelor of Science in Medical Laboratory Science consists of 4 terms. The following is a summary of the courses which are offered annually during the terms indicated. Students move through this program in a cohort.

FIRST TERM (Fall: Aug- Dec)

| Course | Credit (lec-lab contact) Hours | Instructor |
|---------------------------------------|--------------------------------|-----------------|
| MT 411 Biochemistry | 2(30-0) | Roderick Hori |
| MT 412 Clinical Analysis | 3 (30-40) | Amy Cox |
| MT 413 Introduction to Pathology | 1 (20-0) | Cameila Johns |
| MT 415 Urinalysis | 2 (20-20) | LeiLani Collins |
| MT 418 Intro to Clinical Lab Science | 2 (20-20) | Linda Ross |
| MT 414 Parasitology | 2 (20-20) | Linda Pifer |
| MT 425 Urinalysis: Clinical Practicum | 1 (1 week) | LeiLani Collins |
| TOTAL | 13 hours | |

SECOND TERM (Spring: Jan - May)

| Course | Credit (lec-lab contact) Hours | Instructor |
|--|--------------------------------|-------------------|
| Winter Block | | |
| MT 421 Human Genetics | 1 (20-0) | Linda Pifer |
| MT 427 Cell Biology | 2 (30-0) | Roderick Hori |
| MT 434 Basic and Clinical Immunology I | 3 (30-40) | Thomas Williamson |
| MT 422 Clinical Chemistry I | 3 (30-40) | TBA |

Spring Block

| | | |
|--------------------------------|-----------------|--------------------|
| MT 431 Hematology I | 3 (30-60) | LeiLani Collins |
| MT 432 Clinical Microbiology I | 4 (30-90) | Linda Ross |
| MT 433 Clinical Chemistry II | 3 (30-40) | Kathleen Kenwright |
| TOTAL | 19 hours | |

THIRD TERM (Fall: July – Dec)

| Course | Credit (lec-lab contact) Hours | Instructor |
|--|--------------------------------|--------------------|
| Summer Block | | |
| MT 441 Hematology II: Clinical Practicum | 2 (2 weeks) | LeiLani Collins |
| MT 442 Microbiology II: Clinical Practicum | 3 (3 weeks) | Linda Ross |
| MT 443 Chemistry III: Clinical Practicum | 2 (2 weeks) | Kathleen Kenwright |
| MT 519 Virology | 1 (15-0) | Linda Pifer |
| MT 520 Adv.Tech in Molecular Biology | 2 (20-40) | Keisha Brooks |

Fall Block

| | | |
|----------------------------------|-----------------|--------------------|
| MT 511 Hematology III | 4 (40-60) | LeiLani Collins |
| MT 513 Clinical Chemistry IV | 3 (30-40) | Kathleen Kenwright |
| MT 518 Introduction to Research | 1 (20-0) | Linda Pifer |
| MT 512 Blood Bank I | 5 (60-40) | Thomas Williamson |
| MT 532 Clinical Microbiology III | 2 (20-20) | Linda Ross |
| TOTAL | 25 hours | |

FOURTH TERM (Spring: Jan - May)

| Course | Credit (lec-lab contact) Hours | Instructor |
|---|---|--------------------|
| MT 515 Basic Ed. and Management | 2 (25-0) | Linda Ross |
| MT 517 Principles of Laboratory Utilization | 1 (20-0) | Kathleen Kenwright |
| MT 521 Hematology IV: Clinical Practicum | 3 (3 weeks) | LeiLani Collins |
| MT 523 Clinical Chemistry V: Clin Practicum | 2 (2 weeks) | Kathleen Kenwright |
| MT 531 Off campus Experiences | 1 (2 weeks) | LeiLani Collins |
| MT 533 Ethics & Professional Issues | 1 (20-0) | Linda Ross |
| MT 535 Research Practicum II | 2 (2 weeks) | Linda Pifer |
| MT 542 Microbiology IV: Clinical Practicum | 2 (2 weeks) | Linda Ross |
| MT 544 Blood Bank II: Clinical Practicum | 4 (4 weeks) | Thomas Williamson |
| TOTAL | 18 hours | |
| GRAND TOTAL | 75 hours | |

Attendance Requirement

Medical laboratory science students are expected to attend all scheduled classes, student labs, and clinical lab assignments. In the case of absence due to illness or emergency, the student must notify the medical laboratory science office and clinical site no later than 8:30AM of the day missed. For any other absences, prior arrangements must be made with the specific instructor(s) involved. Makeup tests, missed lectures, or laboratory sessions should be coordinated with the course director. Appointments for health services should not be made during scheduled class time.

Clinical Affiliations

Clinical affiliation sites are located in Memphis and throughout Tennessee. Due to the limited number of clinical sites in Memphis, it may become necessary for students to accept the financial impact of traveling and living out of town for a portion of their clinical assignments.

Grading Policy

Written and practical examinations and performance evaluations are a part of the educational program throughout the curriculum. All courses in each term must be passed before the student is allowed to progress to the next term. No credit for any course is awarded until the end of the term. The point-grade conversion scale used by the medical laboratory science program for all courses, **except** clinical practice courses is as follows:

| | |
|----------|-----|
| 95 – 100 | = A |
| 85 – 94 | = B |
| 75 – 84 | = C |
| 65 – 74 | = D |
| Below 65 | = F |

The grading scale for all **clinical practice** courses is as follows:

| | |
|----------|-----|
| 95 – 100 | = A |
| 86 – 94 | = B |
| 80 – 85 | = C |
| 75 – 79 | = D |
| Below 75 | = F |

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Progress and Promotion

Students must maintain a term GPA of 2.0 on a 4.0 scale and meet all required professional and ethical standards to progress to the next term in good standing. Any student who earns a grade of D in any course may be placed on academic probation. A student earning a grade of “F” in any course or a grade of “D” in two or more courses may be dismissed. Using the guidelines outlined for progress and promotion under the General Information section in the present catalog, the student will be carefully evaluated to determine the course of action which is best for the student and the program.

Requirements for Graduation

The following requirements must be satisfied to earn the Bachelor of Science degree in Medical Laboratory Science:

1. The candidate must present evidence of having satisfactorily completed all prerequisite coursework.
2. Students must complete all courses and maintain a minimum GPA of 2.0.
3. The candidate must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.

Attendance at commencement is mandatory. Those unable to attend the commencement must obtain permission to receive the degree *in absentia* by filing a written request with the Dean of the College.

Awards

The two awards given to the students in the Bachelor of Science in Medical Laboratory Science program are named for former faculty members who provided distinguished service to the University.

- ***Frances Guthrie Outstanding Student Award in Medical Technology***
This award is presented to a graduating student who has demonstrated exceptional ability based on academic and professional criteria. The recipient is chosen by the medical laboratory science faculty and fellow students. This award is not necessarily given each year.
- ***Alice Scott Hitt Faculty Award in Medical Technology***
This award is presented to a graduating student who has demonstrated outstanding personal and professional characteristics. The recipient of the award is chosen by the medical laboratory science faculty. This award may not be given every year.

Certification Examination and Licensure

Graduates with a Bachelor's degree in Medical Laboratory Science qualify to sit for the national certification examination in medical laboratory science (MLS) administered by the Board of Certification (BOC) of the American Society for Clinical Pathology (ASCP). Graduates are also eligible to take the American Medical Technologists (AMT) certification examination. Both examinations are offered year-round in major cities throughout the United States. Graduates in the program seeking employment in the field of medical laboratory science in the state of Tennessee must also obtain a license to practice from the Tennessee Medical Laboratory Board. A passing score on the ASCP or AMT certification exam is required for licensure in Tennessee.

Accreditation

The UTHSC program in medical laboratory science is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018-5119, (773) 714-8880; <http://www.nacls.org>.

Student Professional Organization Membership

Medical laboratory science students are eligible for student membership in a number of professional associations including the American Society for Clinical Laboratory Science and the American Society of Clinical Pathology. Students are encouraged to apply for membership in one or more regional or national professional organizations.

BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCE -- ONLINE PROGRAM (MLT TO BSMLS)

Kathy Kenwright, M.S., Program Director
Sherri D. Flax, M.D., Medical Advisor

Program Objectives

The College of Allied Health Sciences offers an online Bachelor of Science degree in Medical Laboratory Science (BSMLS) program for students who have earned an Associate of Science (AS) or Associate of Applied Science (AAS) degree in Medical Laboratory Technology (MLT). This career-ladder program allows Medical Laboratory Technicians to complete their Bachelor of Science degree online while maintaining their employment in a medical laboratory. Graduates of the program are prepared to function effectively as medical laboratory scientists in any laboratory setting and eventually to assume positions of responsibility in laboratory management, teaching and consulting.

Admission Requirements

1. Completion of the following 84 credit hours of pre-requisite coursework with a grade of "C" or better in each course: (Note: Science courses that are delivered in a virtual or online format are not acceptable.)

| Prerequisite Course Work | Credit Hours |
|--|--------------|
| English | 3 |
| Humanities | 3 |
| General Chemistry | 8 |
| Organic Chemistry ²⁴ | 8 |
| General Biology or Zoology | 8 |
| Human Physiology or Anatomy/Physiology | 4 |
| College Algebra | 3 |
| Microbiology | 4 |
| Social Science | 3 |
| Electives and MLT coursework | 40 |
| TOTAL | 84 |

2. An earned AS or AAS degree in Medical Laboratory Technology from a NAACLS accredited program.
3. In addition to their B.S. degree requirements, qualified students must have successfully completed with a "C" or better the specific courses required for medical laboratory science.
4. A minimum overall GPA of 2.5.
5. Sufficient college level course work to total a minimum of 84 credit hours with a "C" or higher in MLT and prerequisite courses.
6. Three letters of recommendation from previous college instructors or immediate supervisor and a letter of support from the applicant's laboratory manager.
7. Foreign applicants whose native language is not English must submit the results of the TOEFL, with a minimum score of 550 on the written test, 213 on the computer test or 80 on the TOEFL iBT®
8. Interview with the faculty.

Applications are accepted online at <http://www.uthsc.edu/admissions/cahs.php>.

Health Requirements

In addition to general University of Tennessee Health Science Center requirements, Medical Laboratory Science students are required to have an annual skin test for tuberculosis and to be immunized against *Neisseria meningitidis* and the Hepatitis B virus. Information about fulfilling these requirements is provided during orientation.

²⁴ One semester of Organic Chemistry and one semester of Biochemistry is acceptable.

Required Textbooks

Students may access the required books for the program by going to the following link to the Bookstore on the UTHSC website: <http://www.uthsc.edu/purchasing/bookstore.php>.

Technical Standards

Medical Laboratory Science students must have or must be able to acquire certain essential skills, functions and professional attitudes and behavior as described for the College and the Program in order to progress through the curriculum and to graduate. A description of the technical standards for students in the College of Allied Health Sciences is included in the college overview section on this catalog. The additional Specific Technical Standards for Medical Technology Students include the:

- Ability to assess and make appropriate judgments regarding lab services and patient outcomes.
- Ability to prioritize and perform laboratory testing.
- Ability to adapt to a variety of patient care situations, including crises.
- Ability to communicate effectively in English, orally and in writing.
- Ability to participate in discussion in the classroom, the clinical arena and with colleagues and patients.
- Ability to acquire information developed through didactic instruction and clinical experiences.
- Ability to understand reading assignments and to search and evaluate literature.
- Ability to prepare written assignments and maintain written records.
- Ability to perform duties and assignments in a timely fashion while under stress and in a variety of settings.
- Ability to meet deadlines.
- Ability to use the computer for instructional assignments and patient care activities.

Physical and Motor Skills

- Dexterity with both wrists, hands and arms, and dexterity with all fingers.
- Ability to grasp, pinch, push, pull, finger, hold, extend, rotate, cut.
- Ability to obtain and/or verify patient samples.
- Possess sufficient stamina to tolerate physically taxing workloads.
- Ability to operate/manipulate and effectively evaluate the status of laboratory instruments and equipment.

Sensory Skills

- Visual acuity (corrected to 20/40); visual perception with respect to depth and color.
- Ability to palpate.

Cognitive, Integrative, Quantitative Skills

- Ability to measure, calculate, analyze, interpret, synthesize and evaluate as applicable to clinical laboratory practice.
- Ability to solve one or more problems within specific time frames, which are often short.
- Ability to comprehend spatial relationships.

Affective, Behavioral and Social Skills

- Ability to function as part of a team (communicate effectively in English, consult, negotiate, share, delegate.)
- Ability to delegate to and supervise others.
- Adherence to safety guidelines for self and others.
- Compliance with standards and regulations required by external agencies.
- Ability to follow instructions/procedures with accuracy and precision
- Ability to maintain intellectual and emotional stability and maturity under stress, while also maintaining appropriate performance standards.
- Learn and exhibit professional attributes.

General Education Competencies²⁵

1. **Communication** – Students must be able to communicate effectively in a style appropriate to the subject, occasion, and audience.
2. **Mathematics** – Students must be able to apply basic mathematical tools in the solution of real-world problems.
3. **Sciences** – Students must be able to apply principles of the natural, behavioral and social sciences in the solution of problems encountered.
4. **Critical Thinking** - Students must be able to demonstrate their ability to solve problems, construct and present cogent arguments in support of one's views, and understand and evaluate arguments presented by others.
5. **Information Literacy** – Students must be able to seek, access, critically evaluate and appropriately apply information.
6. **Technology** - Students must be able to use technology in communicating, solving problems, and acquiring information in a professional manner.

General education competencies will be measured through tools and strategies such as student performance on oral presentations, written critiques of research papers, and papers written in capstone courses. Math competencies may be measured through tools such as comprehensive math examinations prior to graduation. Students will be apprised of specific strategies to be used to evaluate their mastery of the general education competencies during new student orientation.

MLT to BSMLS Curriculum

| Fall Term (August-December) | Credit hours | |
|---------------------------------------|-------------------------|--------------------|
| MLS 401 Medical Laboratory Practice | 3 | Linda Ross |
| MLS 402 Clinical Practicum I | 1 | Linda Ross |
| MLS 403 Clinical Chemistry | 5 | Kathleen Kenwright |
| MLS 404 Clinical Practicum II | 2 | Kathleen Kenwright |
| TOTAL | 11 | |
| Spring Term (January-May) | Credit hours | |
| MLS 405 Hematology | 5 | Leilani Collins |
| MLS 406 Clinical Practicum III | 2 | Leilani Collins |
| MLS 407 Blood Bank | 5 | Thomas Williamson |
| MLS 408 Clinical Practicum IV | 2 | Thomas Williamson |
| TOTAL | 14 | |
| Fall Term (July- December) | Credit hours | |
| MLS 409 Clinical Microbiology | 5 | Linda Ross |
| MLS 410 Clinical Practicum V | 2 | Linda Ross |
| MLS 501 Advanced Laboratory Practices | 4 | Kathleen Kenwright |
| TOTAL | 11 | |
| GRAND TOTAL | 36 | |

²⁵ Required of all students at UTHSC enrolled in one of the UTHSC Bachelor of Science degree programs

Communication

Email is the primary mode of communication for instructor and student interactions. Course information is provided to students via the campus learning management system, BlackBoard, which includes the course syllabus, links to campus resources, reading and supplemental class materials, recorded lectures, testing and assessment, grades and other classroom materials. Faculty may also interact with students via web-conferencing using Adobe Connect, video chat and telephone conferences.

Attendance Requirement

Attendance is mandatory. In an online class, that means participating in discussions or activities posted in Blackboard and checking for announcements on a daily basis.

Clinical Affiliations

Clinical affiliation sites are located in Memphis and throughout Tennessee. Ideally students will complete their clinical practicums at their place of employment. These practicums must be completed outside of their work schedule. If the place of employment does not perform testing in all areas the student will be expected to find an alternate site. An affiliation agreement (between the clinical site and the University) must be signed before a student can perform a clinical practicum.

Grading Policy

Written and practical examinations and performance evaluations are a part of the educational program throughout the curriculum. All courses in each credit must be passed before the student is allowed to progress to the next term. No credit for any course is awarded until the end of the term. The point-grade conversion scale used by the medical laboratory science program for all courses, **except** clinical practice courses is as follows:

95 – 100 = A
85 – 94 = B
75 – 84 = C
65 – 74 = D
Below 65 = F

The grading scale for all **clinical practice** courses is as follows:

95 – 100 = A
86 – 94 = B
80 – 85 = C
75 – 79 = D
Below 75 = F

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Progress and Promotion

Students must maintain a term GPA of 2.0 on a 4.0 scale to progress to the next term in good standing. Any student who earns a grade of D in any course may be placed on academic probation. A student earning a grade of “F” in any course or a grade of “D” in two or more courses may be dismissed using the guidelines outlined for progress and promotion under the General Information section in the present catalog.

Requirements for Graduation – BSMLS (MLT to BSMLS)

The following requirements must be satisfied to earn the Bachelor of Science degree in Medical Laboratory Science:

1. The candidate must present evidence of having satisfactorily completed all prerequisite coursework.
2. Students must complete all courses and maintain a minimum GPA of 2.0.
3. The candidate must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.

Attendance at graduation is mandatory. Those unable to attend the commencement must obtain permission to receive the degree *in absentia* by filing a written request with the Dean of the College.

Certification Examination and Licensure

Graduates with a Bachelor's degree in Medical Laboratory Science qualify to sit for the national certification examination in medical laboratory science (MLS) administered by the Board of Certification (BOC) of the American Society for Clinical Pathology (ASCP). Graduates are also eligible to take the American Medical Technologists (AMT) certification examination. Both examinations are offered year-round in major cities throughout the United States. Graduates in the program seeking employment in the field of medical laboratory science in the state of Tennessee must also obtain a license to practice from the Tennessee Medical Laboratory Board. A passing score on the ASCP or AMT certification exam is required for licensure in Tennessee.

Accreditation

The UTHSC program in medical laboratory science is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018-5119; (773) 714-8880; <http://www.naacls.org>. The online program will undergo accreditation review during the next accreditation cycle with the current medical technology program.

Student Professional Organization Membership

Medical laboratory science students are eligible for student membership in a number of professional associations including the American Society for Clinical Laboratory Science and the American Society of Clinical Pathology. Students are encouraged to apply for membership in one or more regional or national professional organizations.

MASTER OF CYTOPATHOLOGY PRACTICE (MCP)

Barbara DuBray-Benstein, Ph.D., Program Director

Nadeem Zafar, M.D., Medical Director, Cytotechnology Program

Charles R. Handorf, M.D., Ph.D., Medical Advisor, Histotechnology Program

Program Objectives

The curriculum for the Master of Cytopathology Practice (MCP) degree is designed to prepare competent entry-level histotechnologists and cytotechnologists with the skills necessary to prepare tissue and cytologic specimens for microscopic analysis, and to accurately evaluate and interpret all types of cytologic material. Graduates of the program will be able to perform, interpret and correlate ancillary testing for proper triage of patients. They will be able to meet the current demands of the profession and will be prepared to engage future technology as it becomes standard in the anatomic pathology laboratory. Graduates of the program will also have the necessary skills in quality assessment to direct quality improvement activities and assume positions of leadership in management, research and education. Graduates of the program are qualified to sit for both the cytotechnologist and histotechnologist certification examinations offered by the American Society of Clinical Pathology Board of Certification.

Curriculum Description

The program is designed as a full time “3 + 2” program that leads to a Master of Cytopathology Practice degree. Students complete three years of pre-requisite courses at other colleges or universities, and then complete two years (24 months) of professional coursework on the campus of the University of Tennessee Health Science Center. Candidates are not required to have a baccalaureate degree prior to admission. Students receive both clinical experience and didactic instruction throughout the program, with the greatest emphasis on microscopic interpretation of cells for diagnosis of disease. Techniques of specimen collection, fixation, preparation, processing, embedding, microtomy and staining are mastered, as well as procedures for documentation and quality improvement. Students perform and interpret ancillary technologies including molecular diagnostic techniques and are introduced to laboratory management principles, and laboratory information systems. Required oral presentations by students include selected scientific literature reviews and case studies. Students also design and conduct a research project for presentation.

Admission Requirements

To be eligible for consideration for admission into the MCP program, applicants must meet the following requirements:

1. Completion of the following 85 credit hours of pre-requisite coursework with a grade of “C” or better in each course: (Note: Science courses that are delivered in a virtual or online format are not acceptable.)

| Prerequisite Course Work | Credit Hours |
|--------------------------------|--------------|
| General Biology | 8 |
| General Chemistry | 8 |
| English or Communication | 9 |
| Social Science | 12 |
| Mathematics or Statistics | 3 |
| Advanced Biology ²⁶ | 15 |
| Electives | <u>30</u> |
| TOTAL | 85 |

²⁶ Recommended courses in advanced biology include anatomy, physiology, cell biology, microbiology, immunology, and histology

2. Minimum overall grade point average of 3.0 OR minimum overall grade point average of 2.5 with a satisfactory score on the GRE.
3. Submit official transcripts of above coursework
4. Personal interview with members of the admissions committee
5. Foreign applicants whose native language is not English must submit results of the TOEFL, with a minimum score of 550 on the written test, 213 on the computer test, or 80 on the TOEFL iBT®.
6. Completed application form including an essay describing the applicant's reasons for choosing the profession and their career goals. A non-refundable application fee must accompany the application.
7. Pre-professional advisory committee recommendation from college or university attended OR two letters of recommendation from previous college instructors.
8. Ability to meet published technical standards of the College of Allied Health Sciences and the Master of Cytopathology Practice degree program.
9. Students wishing to receive a baccalaureate degree from the institution where pre-requisite courses were taken must also meet the general core educational course requirements of that institution.
10. No credit is awarded for prior experiential learning to meet the requirements for completion of the Master of Cytopathology Practice degree.

Applications

Applications are accepted online at www.uthsc.edu/admiss

Application deadlines:

- Early deadline: January 30
- Regular deadline: April 15
- Late deadline: July 1

Health Requirements

In addition to general UTHSC requirements, students admitted to the program must submit evidence of good health. The health examination should include a chest x-ray or tuberculin skin test and a comprehensive eye examination which includes a test for color vision. (Imperfect color vision is not a basis for excluding an applicant from the program but instructors should know if this defect exists.) Students are also required to be immunized against Neisseria meningitidis and the Hepatitis B virus.

Technical Standards

MCP students must have or must be able to acquire certain essential skills, functions and professional attitudes and behavior as described for the college and the program, in order to progress through the curriculum and to graduate. Descriptions of the technical standards for students in the Master of Cytopathology Practice program are provided below.

Sensory/Observational Skills:

Candidates for admission to the Master of Cytopathology Practice (MCP) Program must be able to observe demonstrations and participate in laboratory experiments as required in the curriculum. Candidates must have visual acuity corrected to 20/40 and visual perception with respect to depth and color. Candidates must be able to discriminate details and structures in objects under a microscope .

Physical and Motor Skills:

Candidates for admission to the MCP Program must have sufficient motor function to operate/manipulate and maintain a microscope, microtome and other laboratory instruments or equipment. Candidates must have dexterity with wrists, hands and arms, and dexterity with all fingers. Candidates must possess eye-hand coordination and have the ability to engage in laboratory procedures which involve grasping, pinching, pulling, fingering, holding, extending, rotating, and cutting. Candidates must be able to accurately judge distance and depth and manipulate or control small objects such as tissues with forceps and scalpels. Candidates must have the ability to obtain and/or verify patient samples and possess sufficient stamina to tolerate physically taxing workloads. Candidates must be able to tolerate sitting for long periods of time while working with a microscope or at a microtome. Candidates must be able to remain alert and concentrate for extended periods of time.

Communication Skills:

Candidates for admission to the MCP Program must be able to communicate in English in oral and written form. Candidates must have the ability to participate in discussion in the classroom, the clinical arena and with colleagues and patients. Candidates must be able to acquire information developed through classroom instruction, clinical experiences, independent learning, and consultation. Candidates must have the ability to understand and complete reading assignments and to search and evaluate the literature. Candidates must be able to complete written assignments and maintain written records. Candidates must acquire the ability to use a computer for instructional assignments and patient care activities.

Intellectual/Conceptual, Integrative and Qualitative Skills:

Candidates for admission to the MCP Program must have the ability to measure, calculate, analyze, interpret, synthesize and evaluate data. Candidates must have the ability to prioritize and perform laboratory testing. Candidates must have the ability to make sound judgments and formulate diagnoses after correlating clinical data with laboratory findings. Candidates must possess organizational skills and be able to solve one or more problems within specific time frames which are often short. Candidates must have the ability to perform duties and assignments in a timely fashion while under stress and in a variety of settings. In addition, candidates must have the ability to comprehend three-dimensional relationships and understand the spatial relationships of anatomic, histologic and cellular structures. Candidates must be capable of acquiring specified microscopic interpretative skills as presented by microscopic demonstrations and other experiences required by the curriculum.

Behavioral/Social Skills and Professionalism:

Candidates for admission to the MCP Program must demonstrate the ability to follow instructions/procedures with accuracy and precision. Candidates must possess the ability to maintain intellectual and emotional stability and maturity under stress, while also maintaining appropriate performance standards. Candidates must have the ability to manage time, organize workload and meet deadlines. Candidates must be able to learn and exhibit professional attributes. Candidates must adhere to safety guidelines for self and others and be able to comply with standards and regulations required by external agencies. Candidates must have the ability to function as part of a team and to delegate responsibilities appropriately.

Scholarships

The following scholarships are available to students entering the Master of Cytopathology Practice Degree program:

- UTNAA Scholarship
- Chancellor's Scholarship
- Erickson-Rube Scholarship
- Goodman Scholarship

The Professional Curriculum - MCP

The Master of Cytopathology Practice degree program curriculum consists of 4 terms. The following is a summary of the courses which are offered annually during the terms indicated. Students move through this program in a cohort.

FIRST TERM (Fall: Aug-Dec)

| Course | Credit Hrs (lec-lab contact) | Instructor |
|-----------------------------------|---------------------------------|-------------------------|
| MCP 401 Histology | 2 (15-45) | Anand Kulkarni |
| MCP 413 Introduction to Pathology | 1 (20-0) | Cameila Johns |
| MCP 418 Intro to Clin Lab Science | 2 (20-20) | Linda Ross |
| MCP 440 Microscopic Evaluation I | 4 (0-180) | Keisha Brooks |
| MCP 451 Gynecologic Cytopathology | 4 (60-0) | Barbara DuBray-Benstein |
| MCP 470 Lab Techniques I | 2 (15-45) | Keisha Brooks |
| TOTAL | 15 hours | |

SECOND TERM (Spring: Jan-June)

| | | |
|------------------------------------|-----------------|-------------------------|
| MCP 427 Cell Biology | 2 (30-0) | Roderick Hori |
| MCP 420 Histotechnology Theory I | 3 (45-0) | Sheila Criswell |
| MCP 435 Histotechnology Practice I | 3 (0-135) | Sheila Criswell |
| MCP 471 Lab Techniques II | 2 (15-45) | Keisha Brooks |
| MCP 461 Diagnostic Cytopathology | 4 (60-0) | Barbara DuBray-Benstein |
| MCP 481 Microscopic Evaluation II | 4 (0-180) | Keisha Brooks |
| MCP 494 Principles of Research | 1 (15-0) | Keisha Brooks |
| TOTAL | 19 hours | |

THIRD TERM (Fall: July-Dec)

| | | |
|--|-----------------|-------------------------|
| MCP 520 Adv Tech Mol Biol | 2 (20-40) | Keisha Brooks |
| MCP 551 Statistics | 1 (15-0) | Marcia Sharp |
| MCP 552 Histotechnology Theory II | 3 (45-0) | Sheila Criswell |
| MCP 565 Histotechnology Practice II | 3 (0-135) | Sheila Criswell |
| MCP 560 Microscopic Evaluation III | 3 (0-135) | Keisha Brooks |
| MCP 575 Advanced Diagnostic Cytopathology | 3 (45-0) | Barbara DuBray-Benstein |
| MCP 590 Histotechnology Practicum | 6 (6 weeks) | Sheila Criswell |
| MCP 592 Research Seminar I | 1 (0-45) | Keisha Brooks |
| TOTAL | 22 hours | |

FOURTH TERM (Spring: Jan-May)

| | | |
|--------------------------------------|-----------------|-------------------------|
| MCP 515 Basic Ed & Management | 2 (25-0) | Linda Ross |
| MCP 581 Microscopic Evaluation IV | 4 (0-180) | Barbara DuBray-Benstein |
| MCP 583 Ethics & Professional Issues | 1 (15-0) | Barbara DuBray-Benstein |
| MCP 593 Research Seminar II | 1 (0-45) | Keisha Brooks |
| MCP 597 Cytology Practicum | 8 (8 weeks) | Keisha Brooks |
| TOTAL | 16 hours | |
| Total Hours | 72 hours | |

Attendance Requirement

Cytopathology practice students are expected to attend all scheduled classes, student labs, and clinical lab assignments. In the case of absence due to illness or emergency, the student should notify the cytopathology practice office and clinical site no later than 8:30AM of the day missed. For any other absences, prior arrangements must be made with the specific instructor(s) involved. Appointments for health services should not be made during scheduled class time.

Clinical Affiliations

Clinical affiliation sites are located in Memphis, throughout Tennessee, and in other states. Due to the limited number of clinical sites in Memphis, it is necessary for students to accept the financial impact of traveling and living out of town for a portion of their clinical assignments.

Grading Policy

Written and practical examinations and performance evaluations are a part of the educational program throughout the curriculum. All courses in each term must be passed before the student is allowed to progress to the next term. No credit for any course is awarded until the end of the term. The point-grade conversion scale used by the cytopathology program for all courses, **except** clinical practice courses is as follows:

92 – 100 = A
82 – 91 = B
75 – 81 = C
65 – 74 = D
Below 65 = F

The grading scale for all **clinical practice** courses is as follows:

95 – 100 = A
86 – 94 = B
80 – 85 = C
75 – 79 = D
Below 75 = F

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Progress and Promotion

Students must maintain a GPA of 3.0 on a 4.0 scale in order to progress to the next term in good standing. Any student who earns a grade of C or less in any course or whose GPA falls below a 3.0 may be placed on academic probation or dismissed. Using the guidelines outlined for progress and promotion under the General Information section in this catalog, the student will be carefully evaluated by the Progress and Promotions Committee of the program to determine the course of action which is best for the student and for the program.

Requirements for Graduation - MCP

The following requirements must be satisfied to earn the degree of Master of Cytopathology Practice:

4. Satisfactory completion of 72 credit hours of core course requirements.
5. Obtain a minimum GPA of 3.0.
6. Satisfactory completion of a research project and presentation are required prior to graduation.
7. Satisfactory score on written and visual comprehensive examination.
8. Successful students will complete the program in May and will be eligible to take national certification examinations and apply for a Tennessee license to practice in the state.
9. Students must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.

Attendance at graduation is mandatory. Those unable to attend the commencement must obtain permission to receive the degree *in absentia* by filing a written request with the Dean of the College.

Awards

The two awards given to students in the Master of Cytopathology Practice degree program are named for former faculty members who provided distinguished service to the University.

- **Cyrus C. Erickson Award in Cytotechnology:** This award is presented to a graduating student by the cytotechnology faculty in recognition of professional ability, intellectual curiosity and a sense of responsibility.
- **Gerre Wells Gourley Award in Histotechnology:** This award is presented to a graduating student in recognition of professional attitude, knowledge and technical skill.

Certification Examination and Licensure

Graduates with a Master of Cytopathology Practice degree qualify to sit for the national certification examinations in cytotechnology and histotechnology administered by the Board of Certification (BOC) of the American Society for Clinical Pathology (ASCP). The examinations are year-round in major cities throughout the United States. Graduates who successfully complete the examination are entitled to use the designation CT (ASCP) and/or HTL (ASCP). After certification in cytotechnology or histotechnology, graduates are also eligible for certification in molecular pathology, MP (ASCP). Graduates in the program seeking employment in the field of cytotechnology in the state of Tennessee must also obtain a license to practice from the Tennessee Medical Laboratory Board. A passing score on the ASCP certification exam is required for licensure in Tennessee.

Accreditation

The UTHSC Program in Cytopathology Practice is accredited by the Cytotechnology Programs Review Committee in cooperation with the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756; (727) 210-2350; www.caahep.org. The program is also accredited for histotechnology education by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018-5119; (773) 714-8880; www.naacls.org.

Student Professional Organization Membership

Cytopathology practice students are eligible for student membership in a number of professional associations including the American Society of Cytopathology, the American Society for Cytotechnology, the National Society for Histotechnology and the American Society of Clinical Pathology. Students are encouraged to apply for membership in one or more regional or national professional organizations.

MASTER OF SCIENCE IN CLINICAL LABORATORY SCIENCES - ADVANCED PRACTICE TRACK (MSCLS)

Kathy Kenwright, M.S., Program Director
Sherri D. Flax, M.D., Medical Advisor

Program Objectives

The College of Allied Health Sciences offers a Master of Science in Clinical Laboratory Science designed for students who have earned a B.S. degree in biology or chemistry and desire to enter a career in the clinical laboratory. The program provides the necessary educational experiences for the student to qualify for certification as a medical technologist/medical laboratory scientist by national examination and to apply for a Tennessee license to practice as a clinical laboratory professional. Graduates achieve entry-level competency in laboratory sciences as well as acquire additional, graduate-level skills in problem solving, management, communication and clinical correlation.

Curriculum Description

The program is a full-time, 24 month advanced practice course of study which begins in August of each year. Students earn a B.S. degree in biology or chemistry at other colleges or universities and then complete two years of professional coursework on the Memphis campus of the University of Tennessee Health Science Center. Master's level courses, taken with the B.S. in Medical Laboratory Science students, have higher level course learning objectives to improve the learner's critical thinking and problem solving skills. To achieve these objectives, graduate students will have additional assignments in each course including clinical rotations. These assignments will include, but are not limited to, additional reading assignments, essay test questions, journal critiques, case study presentations, research papers and independent learning assignments.

During the spring term of the second year, graduate students will begin mentored work with a faculty mentor on a Master's Level Research Project which will be written in a format suitable for publication in a clinical journal. Projects will be presented to faculty and students upon completion.

Admissions Requirements

Advance Practice Track

1. An earned B.S. degree in biology, chemistry, microbiology or other science from an accredited university.
2. In addition to their B.S. degree requirements, qualified students must have successfully completed with a "C" or better the specific pre-requisite courses required for medical technology.
3. Submit a satisfactory score on the Graduate Record Exam (GRE).
4. Meet faculty expectations on the student professional performance evaluation.
5. Students must complete forty-two (42) credit hours of the undergraduate professional courses (the first year of the B.S. in Medical Laboratory Sciences) with a cumulative GPA of 3.0 or higher on a 4.0 scale.
6. Foreign applicants whose native language is not English must submit the results of TOEFL, with a minimum score of 550 on the written test or 213 on the computer test.
7. Students must submit a letter of intent to The Admissions Committee of the Department of Clinical Laboratory Sciences in the Spring of the first year of the program.
8. Graduate applicants will be notified by the Dean of the College of Allied Health Sciences in May advising them of their admission status. Master's level course work begins in the second fall term.

Applications are accepted online at <http://www.uthsc.edu/admissions/>. Students must apply to, and be accepted to, the Bachelor of Science in Medical Laboratory Science program initially. Upon successful completion of the first year in the program, interested and qualified students may apply for acceptance into the Master of Science in Clinical Laboratory Sciences program.

Health Requirements

In addition to general University of Tennessee Health Science Center requirements, Medical Laboratory Science students are required to have an annual skin test for tuberculosis and to be immunized against *Neisseria meningitides* and the Hepatitis B virus. Information about fulfilling these requirements is provided during orientation.

Technical Standards

Medical Laboratory Science students must have or must be able to acquire certain essential skills, functions and professional attitudes and behavior as described for the College and the Program in order to progress through the curriculum and to graduate. A description of the technical standards for students in the College of Allied Health Sciences is included in the college overview section on this catalog. The additional Specific Technical Standards for Medical Technology Students include the:

- Ability to assess and make appropriate judgments regarding lab services and patient outcomes.
- Ability to prioritize and perform laboratory testing.
- Ability to adapt to a variety of patient care situations, including crises.
- Ability to communicate effectively in English, orally and in writing.
- Ability to participate in discussion in the classroom, the clinical arena and with colleagues and patients.
- Ability to acquire information developed through didactic instruction and clinical experiences.
- Ability to understand reading assignments and to search and evaluate literature.
- Ability to prepare written assignments and maintain written records.
- Ability to perform duties and assignments in a timely fashion while under stress and in a variety of settings.
- Ability to meet deadlines.
- Ability to use the computer for instructional assignments and patient care activities.

Physical and Motor Skills

- Dexterity with both wrists, hands and arms, and dexterity with all fingers.
- Ability to grasp, pinch, push, pull, finger, hold, extend, rotate, cut.
- Ability to obtain and/or verify patient samples.
- Possess sufficient stamina to tolerate physically taxing workloads.
- Ability to operate/manipulate and effectively evaluate the status of laboratory instruments and equipment.

Sensory Skills

- Visual acuity (corrected to 20/40); visual perception with respect to depth and color.
- Ability to palpate.

Cognitive, Integrative, Quantitative Skills

- Ability to measure, calculate, analyze, interpret, synthesize and evaluate as applicable to clinical laboratory practice.
- Ability to solve one or more problems within specific time frames, which are often short.
- Ability to comprehend spatial relationships.

Affective, Behavioral and Social Skills

- Ability to function as part of a team (communicates effectively in English, consult, negotiate, share, delegate.)
- Ability to delegate to and supervise others.
- Adherence to safety guidelines for self and others.
- Compliance with standards and regulations required by external agencies.
- Ability to follow instructions/procedures with accuracy and precision
- Ability to maintain intellectual and emotional stability and maturity under stress, while also maintaining appropriate performance standards.
- Learn and exhibit professional attributes

Scholarships

The following scholarships are available to students entering the Medical Laboratory Science program:

- UTNAA Scholarship
- Chancellor's Scholarship
- Ann Bell Scholarship
- Elam Scholarship
- Elizabeth Club Scholarship

Students wishing to be considered should complete the scholarship application and return it to the program director. <http://www.uthsc.edu/finaid/AlliedHealthScholarshipApplication.pdf>

Curriculum Summary – MSCLS Advanced Practice Track

Students must complete forty-two (42) credit hours of the undergraduate professional courses (the first year of the BS in Medical Laboratory Sciences program) with a cumulative GPA of 3.0 or higher on a 4.0 scale before being considered for the MS in Clinical Laboratory Sciences Advanced Practice Track. Students accepted to the Master of Science in Clinical Laboratory Sciences Advanced Practice Track degree program complete an additional 5 terms. The following is a summary of the courses which are offered annually during the terms indicated. Students move through this program in a cohort.

FIRST TERM (Fall: Aug- Dec)

| Course | Credit (lec-lab contact) Hours | Instructor |
|---------------------------------------|--------------------------------|-----------------|
| MT 411 Biochemistry | 2 (30-0) | Roderick Hori |
| MT 412 Clinical Analysis | 3 (30-40) | Amy Cox |
| MT 413 Introduction to Pathology | 1 (20-0) | Camelia Johns |
| MT 415 Urinalysis | 2 (20-20) | LeiLani Collins |
| MT 418 Intro to Clinical Lab Science | 2 (20-20) | Linda Ross |
| MT 414 Parasitology | 2 (20-20) | Linda Pifer |
| MT 425 Urinalysis: Clinical Practicum | 1 (1 week) | LeiLani Collins |
| TOTAL | 13 hours | |

SECOND TERM (Spring: Jan – May)

Winter Block

| | | |
|--|-----------|-------------------|
| MT 421 Human Genetics | 1 (20-0) | Linda Pifer |
| MT 427 Cell Biology | 2 (30-0) | Roderick Hori |
| MT 434 Basic and Clinical Immunology I | 3 (30-40) | Thomas Williamson |
| MT 422 Clinical Chemistry I | 3 (30-40) | TBA |

Spring Block

| | | |
|--------------------------------|-----------------|--------------------|
| MT 431 Hematology I | 3 (30-60) | LeiLani Collins |
| MT 432 Clinical Microbiology I | 4 (30-90) | Linda Ross |
| MT 433 Clinical Chemistry II | 3 (30-40) | Kathleen Kenwright |
| TOTAL | 19 hours | |

THIRD TERM (Fall: July – Dec)

Summer Block

| | | |
|--|-------------|--------------------|
| MT 441 Hematology II: Clinical Practicum | 2 (2 weeks) | LeiLani Collins |
| MT 442 Microbiology II: Clinical Practicum | 3 (3 weeks) | Linda Ross |
| MT 443 Chemistry III: Clinical Practicum | 2 (2 weeks) | Kathleen Kenwright |
| MT 519 Virology | 1 (15-0) | Linda Pifer |
| MT 520 Adv. Tech in Molecular Biology | 2 (20-40) | Keisha Brooks |

Fall Block

| | | |
|----------------------------------|-----------------|--------------------|
| MT 611 Hematology III | 4 (40-60) | LeiLani Collins |
| MT 613 Clinical Chemistry IV | 3 (30-40) | Kathleen Kenwright |
| MT 612 Blood Banking I | 5 (60-40) | Thomas Williamson |
| MT 632 Clinical Microbiology III | 2 (20-20) | Linda Ross |
| CLS 601 Research Design | 2 (20-0) | Linda Pifer |
| TOTAL | 26 hours | |

FOURTH TERM (Spring: Jan – May)

| | | |
|---|-----------------|--------------------|
| CLS 602 Educ & Training Theory & Methods | 2 (25-0) | Linda Ross |
| CLS 604 Current Issues in Clin Lab Sci | 2 (30-0) | Kathleen Kenwright |
| CLS 701 Princ of Lab Management I | 2 * | Linda Ross |
| MT 621 Hematology IV: Clin Practicum | 3 (3 weeks) | LeiLani Collins |
| MT 623 Clinical Chemistry V: Clin Practicum | 2 (2 weeks) | Kathleen Kenwright |
| MT 642 Microbiology IV: Clin Practicum | 2 (2 weeks) | Linda Ross |
| MT 644 Blood Bank II: Clin Practicum | 4 (4 weeks) | Thomas Williamson |
| TOTAL | 17 hours | |

FIFTH TERM (Fall: July – Dec)

| | | |
|---------------------------------------|-----------------|-----------------|
| CLS 795 Adv. Mol Tech: Clin Practicum | 2 (2 weeks) | LeiLani Collins |
| CLS 794 Research Practicum | 4 (4 weeks) | Linda Pifer |
| CLS 796 Master's Project I | 2 | Linda Pifer |
| CLS 797 Master's Project II | 2 | Linda Pifer |
| TOTAL | 10 hours | |

TOTAL HOURS **85 hours**

**Denotes a "hybrid course" such that course content is divided between classroom and online instruction*

Attendance Requirement

Medical laboratory science students are expected to attend all scheduled classes, student labs, and clinical lab assignments. In the case of absence due to illness or emergency, the student must notify the medical laboratory science office and clinical site no later than 8:30AM of the day missed. For any other absences, prior arrangements must be made with the specific instructor(s) involved. Makeup tests, missed lectures, or laboratory sessions should be coordinated with the course director. Appointments for health services should not be made during scheduled class time.

Clinical Affiliations

Clinical affiliation sites are located in Memphis and throughout Tennessee. Due to the limited number of clinical sites in Memphis, it may become necessary for students to accept the financial impact of traveling and living out of town for a portion of their clinical assignments.

Grading Policy

Written and practical examinations and performance evaluations are a part of the educational program throughout the curriculum. All courses in each term must be passed before the student is allowed to progress to the next term. No credit for any course is awarded until the end of the term. The point-grade conversion scale used by the medical technology program for all courses is as follows:

| | |
|----------|-----|
| 95 – 100 | = A |
| 86 – 94 | = B |
| 80 – 85 | = C |
| 75 - 79 | = D |
| Below 75 | = F |

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Progress and Promotion

Students must maintain a cumulative GPA of 3.0 on a 4.0 scale and meet all professional/ethical standards in order to progress to the next term in good standing. Academic probation and/or dismissal from the program may result if the GPA falls below 3.0. Using the guidelines outlined for progress and promotion under the General Information section in the present catalog, the student will be carefully evaluated to determine the course of action which is best for the student and the program.

Requirements for Graduation – MSCLS, Advanced Practice Track

The following requirements must be satisfied to earn the degree of Master of Science in Clinical Laboratory Science (Advanced Practice Track).

1. Satisfactory completion of 42 credit hours at the baccalaureate level and 43 credit hours of work at the Master of Science level.
2. Students must complete all courses and maintain a minimum GPA of 3.0.
3. Satisfactory completion of a research project and presentation are required prior to graduation.
4. Students must file an application for admission to candidacy when the conditions listed above have been fulfilled and the final draft of the master's project has been approved by the research mentor and faculty.
5. Students must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.

Attendance at graduation is mandatory. Those unable to attend the commencement must obtain permission to receive the degree *in absentia* by filing a written request with the Dean of the College.

Awards

Brenta G. Davis Outstanding Clinical Laboratory Science Graduate Student Award

This award will be presented to a graduate of the Master of Science in Clinical Laboratory Science program who demonstrates scholarship, character and dedication to the highest ethical and professional standards. The recipient of the award will be chosen by the didactic faculty. The award will not necessarily be presented each year.

Certification Examination and Licensure

Graduates with a Master of Science in Clinical Laboratory Science qualify to sit for the national certification examination in medical laboratory science (MLS) administered by the Board of Certification (BOC) of the American Society for Clinical Pathology (ASCP). Graduates are also eligible to take the American Medical Technologists (AMT) certification examination. Both examinations are offered year-round in major cities throughout the United States. Graduates in the program seeking employment in the field of medical laboratory science in the state of Tennessee must also obtain a license to practice from the Tennessee Medical Laboratory Board. A passing score on the ASCP or AMT certification exam is required for licensure in Tennessee.

POST-PROFESSIONAL MASTER OF SCIENCE IN CLINICAL LABORATORY SCIENCES (MSCLS)

This program is not accepting applications for admission at this time

The College of Allied Health Sciences offers a graduate program leading to a Master of Science in Clinical Laboratory Sciences (MSCLS) degree available to certified medical technologists, histotechnologists and cytotechnologists. The program provides the opportunity to:

1. understand and manage the effects of managed care without sacrificing quality;
2. develop skill in teaching student and laboratory personnel; and,
3. strengthen expertise in administration, federal and state laws regulating the laboratory, and financial issues affecting the laboratory. All students are required to enroll in a core curriculum of research, education, and regulatory courses.

The Post-professional graduate program in Clinical Laboratory Sciences is designed for both full-time and part-time students. Students must have a written plan for completion of the program requirements approved by the Director of the Graduate Program. All degree requirements for the Master of Science in Clinical Laboratory Sciences (MSCLS) must be completed within five years of the date of initial enrollment. A master's thesis and a practicum must be completed prior to graduation. The minimum credit hours required for graduation is 36 credit hours.

Required Textbooks

Information regarding required textbooks is available at the UTHSC Bookstore.

<http://www.uthsc.edu/purchasing/bookstore.php>.

Curriculum Summary

Core Courses (16 SH required)

| | Credit Hours |
|--|--------------|
| CLS601 Research Design | 2 |
| CLS602 Education and Training Theory and Methods | 2 |
| CLS603 Biostatistics in Clinical Laboratory Sciences | 3 |
| CLS604 Current Issues in CLS | 2 |
| CLS798 Research Practicum | 3 |
| CLS799 Applied Research Project | 4 |

Management Track (11 SH required)

| | Credit Hours |
|---|--------------|
| CLS701 Principles of Laboratory Management I | 2 |
| CLS702 Principles of Laboratory Management II | 3 |
| CLS703 Financial Principles & Methods for the Clinical Laboratory | 3 |
| CLS705 Health Information Systems | 3 |

Electives

| | Credit Hours |
|--|--------------|
| CLS 710 Health Care Economics (U of Memphis ECON 7710) | 3 |
| CLS 712 Epidemiology | 3 |
| CLS 800 Special Topics in Clinical Laboratory Science | 1-4 |
| MDH 700 DH Education: Admin, Planning and Organization | 3 |
| MHIM 605 Healthcare Information Systems | 3 |
| MHIM 610 Issues in Health Information Technology Seminar | 3 |

Total hours required for degree 36

Other courses through the University of Memphis College of Education in Instruction and Curriculum Leadership, Instructional Design and Technology, Educational Psychology and Research, Leadership or Higher and Adult Education as approved by the Program Director.

Grading Scale

The grading scale for CLS post-professional graduate students is as follows:

| | |
|----------|-----|
| 90-100 | = A |
| 80-89 | = B |
| 70-79 | = C |
| Below 70 | = F |

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Students must complete all courses with grades of “B” or above in core and clinical concentration courses, and “C” or above in other courses. No more than two grades of “C” may be applied toward a post-professional graduate degree. Students must maintain an overall grade point average of 3.0 (“B”). A student may be dismissed from the program upon earning more than two (2) grades of “C” or a grade below a “C”. Grades in courses earned at another university will not be computed in the cumulative GPA.

Communication

Email is the primary mode of communication for instructor and student interactions. Course information is provided to students via the campus learning management system, BlackBoard, which includes the course syllabus, links to campus resources, reading and supplemental class materials, recorded lectures, testing and assessment, grades and other classroom materials. Faculty may also interact with students via web-conferencing using Adobe Connect, video chat and telephone conferences.

Requirements for Graduation

The following requirements must be satisfied to earn the degree of Master of Science in Clinical Laboratory Sciences, Post-Professional Track:

1. Satisfactory completion of 36 credit hours of work, which must include 16 hours of core courses, 11-13 hours of specialty concentration courses, and 7-9 hours of electives.
2. Students must complete all courses with a “B” average.
3. Satisfactory completion of practicum and thesis presentation with a final oral examination is required.
4. Admission to candidacy for the master’s degree. Students file an application for draft of the thesis has been approved by the Committee.
5. Students must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.

Attendance at graduation is mandatory. Those unable to attend commencement must obtain permission to receive the degree *in absentia* by filing a written request with the Dean of the College.

COURSE DESCRIPTIONS

- CLS 601 Section 001 Research Design** *Credit: 2 (20-0-0)* The methodology involved in planning, conducting, analyzing, and reporting research associated with clinical laboratory data. General discussion of the research process followed by examination of several different research methods. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Linda Pifer (Fall).
- CLS 601 Section 002 Research Design** *Credit: 2* The methodology involved in planning, conducting, analyzing, and reporting research associated with clinical laboratory data. General discussion of the research process followed by examination of several different research methods. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Must be admitted to the post professional MS CLS program *Offered:* Fall.
- CLS 602 Section 001 Education and Training Theory and Methods** *Credit: 2 (25-0-0)* Introduction to educational theory as it applies to health care, with emphasis on the development and management of instructional and training programs in the clinical laboratory setting. Includes development of legally required competency assessment programs for practitioners. *Mode of delivery:* Didactic Hybrid. *Offered:* Spring. *Instructor of Record:* Linda Ross (Spring).
- CLS 602 Section 002 Education and Training Theory and Methods** *Credit: 2* Introduction to educational theory as it applies to health care, with emphasis on the development and management of instructional and training programs in the clinical laboratory setting. Includes development of legally required competency assessment programs for practitioners. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Must be admitted to the post professional MS CLS program *Offered:* Spring.
- CLS 603 Biostatistics in Clinical Laboratory Sciences** *Credit: 3* Statistical treatment of data from clinical research. Tabular, graphical, and numerical descriptive methods; random sampling; principles of statistical inference; confidence intervals; statistical tests of hypothesis using t and chi-square distributions. Interpreting of statistical analyses in clinical literature. *Mode of delivery:* Didactic Online. *Offered:* Fall.
- CLS 604 Section 001 Current Issues in Clinical Laboratory Sciences** *Credit: 2 (30-0-0)* Seminar for the discussion of issues affecting clinical laboratory scientists. *Mode of delivery:* Seminar Hybrid. *Offered:* Spring. *Instructor of Record:* Kathleen Kenwright (Spring).
- CLS 604 Section 002 Current Issues in Clinical Laboratory Sciences** *Credit: 2* Seminar for the discussion of issues affecting clinical laboratory scientists. *Mode of delivery:* Seminar Online. *Pre-Requisites:* Must be admitted to the post professional MS CLS program *Offered:* Spring.
- CLS 701 Section 001 Principles of Laboratory Management I** *Credit: 2* Introduction to laboratory administration with emphasis on human resources management. Leadership styles, communications and interviewing skills, employee selection and evaluation, motivation, morale, discipline and personnel planning. Includes record keeping, budgets, costs accounting, purchasing, product evaluation, lab safety and regulatory issues. *Mode of delivery:* Didactic Hybrid. *Offered:* Spring. *Instructor of Record:* Linda Ross (Spring).
- CLS 701 Section 002 Principles of Laboratory Management I** *Credit: 2* Introduction to laboratory administration with emphasis on human resources management. Leadership styles, communications and interviewing skills, employee selection and evaluation, motivation, morale, discipline and personnel planning. Includes record keeping, budgets, costs accounting, purchasing, product evaluation, lab safety and regulatory issues. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Must be admitted to the post professional MS CLS program *Offered:* Spring.
- CLS 702 Principles of Laboratory Management II** *Credit: 3* Introduction to laboratory administration with emphasis on record keeping, budgets, costs accounting, purchasing, product evaluation, lab safety, and labor relations. *Mode of delivery:* Didactic Online. *Offered:* Fall.

- CLS 703 Financial Principles and Methods for the Clinical Laboratory** *Credit: 3* Budget development, and analysis, including analysis of variance reports; cost accounting, and test pricing; analysis/preparation of proposals for purchase vs. lease of equipment, reagents, etc.; negotiation of arrangements and development of contracts with vendors and professional staff; maximization of billing strategies consistent with public and private payer requirements; cost/benefit analysis of test menus, point-of-care offerings and business plan development. *Mode of delivery: Didactic Hybrid. Offered: Spring.*
- CLS 705 Health Information Systems** *Credit: 3* Basic attributes of information systems used for in-patient, out-patient, and research health data; methods useful to manage and evaluate such systems. *Mode of delivery: Didactic Online. Offered: Fall.*
- CLS 710 Health Care Economics (U of M ECON 7710)** *Credit: 3* Overview of the economics of and strategies for financing health care in the United States, with emphasis on the effects on successful financial management of health care institutions and clinical laboratories. Includes analysis of financing and delivery of health care and discussion of current health reform issues. *Mode of delivery: Didactic. Offered: Offered every term.*
- CLS 712 Epidemiology** *Credit: 3* The course introduces the basic principles and methods of epidemiology and demonstrates their applicability in the field of public health. Topics to be covered include the historical perspective of epidemiology, measures of disease occurrence and of association, clinical epidemiology, disease screening, casual inference, and study design. *Mode of delivery: Didactic Online. Offered: Spring.*
- CLS 794 Research Practicum** *Credit: 4* Supervised clinical or research experience with a laboratory manager, clinical laboratory science educator or laboratory utilization specialist to permit application of knowledge and skills gained in the curriculum to the clinical laboratory and other affected disciplines. *Mode of delivery: Clinical practice. Offered: Fall.*
- CLS 795 Advanced Molecular Techniques: Clinical Practicum** *Credit: 2* Students spend two weeks on site in a clinical laboratory which employs molecular techniques. Experiences vary according to site and include techniques such as flow cytometry, HLA tissue typing, molecular pathology, genetics or microbiology, electron microscopy, or cytogenetics. Objectives to be met will be mutually set by student and Faculty. *Mode of delivery: Clinical practice. Offered: Fall. Instructor of Record: LeiLani Collins (Fall).*
- CLS 796 Master's Project I** *Credit: 2* First part in planning and conducting the required master's degree research project. Students are expected to begin formulation of their research questions and to complete their review of the literature and to begin and complete the data collection phase of their research. Student projects are designed in various areas of the clinical laboratories and focus on clinical testing, management and supervision issues. Students are required to formally present the results of their projects to the Faculty and student body, and are encouraged to publish their results. *Mode of delivery: Independent project. Offered: Offered every term. Instructor of Record: Dr. Linda Pifer (Fall).*
- CLS 797 Master's Project II** *Credit: 2* Continuation of CLS 796, Master's Project I. During this phase the research report is completed and the final defense of the project takes place. Student projects are designed in various areas of the clinical laboratories and focus on clinical testing, management and supervision issues. Students are required to formally present the results of their projects to the Faculty and student body, and are encouraged to publish their results. *Mode of delivery: Independent project. Pre-Requisites: CLS 796, Master's Project I Offered: Offered every term. Instructor of Record: Dr. Linda Pifer (Fall).*
- CLS 798 Research Practicum** *Credit: 3* Supervised clinical experience with a laboratory manager or laboratory utilization specialist to permit application of knowledge and skills gained in the curriculum to the clinical laboratory and other affected disciplines. *Mode of delivery: Clinical practice. Offered: Offered every term. Instructor of Record: Dr. Linda Pifer (Fall); Linda Ross (Spring).*

- CLS 799 Section 001 Applied Research Project** *Credit: 4* Consideration of all facets related to the investigative process; formulation of a problem, search and analysis of the literature, procedure for collecting data, analysis of data, and organization of thesis proposals and thesis. The student is required to present and obtain committee approval of the proposal prior to the data collection. *Mode of delivery:* Independent project. *Offered:* Offered every term. *Instructor of Record:* Linda Ross (Spring).
- CLS 799 Section 002 Applied Research Project** *Credit: 2* Consideration of all facets related to the investigative process; formulation of a problem, search and analysis of the literature, procedure for collecting data, analysis of data, and organization of thesis proposals and thesis. The student is required to present and obtain committee approval of the proposal prior to the data collection. *Mode of delivery:* Independent project. *Offered:* Offered every term. *Instructor of Record:* Linda Ross (Spring).
- CLS 800 Special Topics in Clinical Laboratory Science** *Credit: 1-4* Directed readings or topics of current interest in clinical laboratory science. *Mode of delivery:* Independent study. May be repeated with topic change. *Offered:* Offered every term. *Instructor of Record:* Linda Ross (Fall).
- MCP 401 Histology** *Credit: 2 (15-45)* Designed to orient the student in tissue structure and function. The characteristics and properties of primary normal human tissues are studied in relation to organ systems. *Mode of delivery:* Didactic and lab Hybrid. *Offered:* Fall. *Instructor of Record:* Dr. Anand Kulkarni (Fall).
- MCP 413 Introduction to Pathology** *Credit: 1 (20-0)* Designed to orient the student to basic concepts of pathology with emphasis on the relationship of histological, physical and laboratory findings to the pathophysiology of disease. Emphasis is on vocabulary of disease and disease mechanisms. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Dr. Cameila Johns (Fall).
- MCP 418 Introduction to Clinical Laboratory Sciences** *Credit: 2 (20-20)* Designed to introduce new laboratory science students to the principles of Standard Precautions and safety in the laboratory, the use of the microscope and identification of basic human cells. Principles of specimen collection, dilution calculations and cell suspensions will also be covered. An introduction to medical terminology, healthcare professions, professional attributes and strategies for student success in the professional programs are discussed. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Linda Ross (Fall).
- MCP 420 Histotechnology Theory I** *Credit: 3 (45-0)* Basic principles of tissue grossing, fixation, processing, embedding, microtomy, and routine and histochemical staining are discussed. Areas covered will include demonstration of carbohydrates, connective tissue, amyloid, microorganisms, pigments and minerals, and non-enzyme muscle stains. Course objectives require discussion of quality control, quality assurance and procedure writing. *Mode of delivery:* Didactic course Online. *Offered:* Spring. *Instructor of Record:* Sheila Criswell (Spring).
- MCP 427 Cell Biology** *Credit: 2 (30-0)* Reviews the structure and function of organelles, biosynthetic pathways within the cell, cellular production of energy, and membrane transport systems. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Roderick Hori (Spring).
- MCP 435 Histotechnology Practice I** *Credit: 3 (0-135)* Course in the practice of tissue and body fluid preparation, fixation of specimens, grossing of specimens, processing and embedding of representative samples, microtomy and routine staining of slides. Also covered are histochemical staining and interpretation of tissue for carbohydrates, connective tissue, amyloid, microorganisms, pigments and minerals, and non-enzyme muscle stains. Didactic material from Lecture in Histotechnology Theory I is reinforced. *Mode of delivery:* Lab. *Offered:* Spring. *Instructor of Record:* Sheila Criswell (Spring).

- MCP 440 Microscopic Evaluation I** *Credit: 4 (0-180)* Course in the study, interpretation and diagnosis of gynecologic cytology specimens. Didactic material introduced in 451 MCP, Gynecologic Cytopathology, is reinforced. *Mode of delivery:* Lab. *Offered:* Fall. *Instructor of Record:* Keisha Brooks (Fall).
- MCP 451 Gynecologic Cytopathology** *Credit: 4 (60-0)* The cellular morphology of female genital tract material is specifically studied. Normal biologic variations, atypical changes, premalignancy, and types of malignancy are considered in detail. Patient management and follow-up based on cytologic findings is also presented. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Barbara DuBray-Benstein (Fall).
- MCP 461 Diagnostic Cytopathology** *Credit: 4 (60-0)* Gross and microscopic anatomy of the major organ systems is presented including the respiratory tract, urinary tract, gastrointestinal system, body cavities and central nervous system. Cytologic material, including fine needle aspirates, from these areas is presented in detail. Emphasis is placed on differential diagnosis of the various non-neoplastic and neoplastic disease processes. *Mode of delivery:* Didactic. *Pre-Requisites:* MCP 451 Gynecologic Cytopathology *Offered:* Spring. *Instructor of Record:* Dr. Barbara Dubray-Benstein (Spring).
- MCP 470 Laboratory Techniques I** *Credit: 2 (15-45)* Introduces collection, preparation and staining of cytologic specimens from the female genital tract and other body sites. Principles of laboratory safety are emphasized. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Kesiha Brooks (Fall).
- MCP 471 Laboratory Techniques II** *Credit: 2 (15-45)* A continuation of 470 MCP, Laboratory Techniques I, this course is a Lecture and Labexperience in cytopreparation of all types of cytologic specimens. Special emphasis is given to fine needle aspiration material, special stains, techniques of fixation, and cell block preparation. Adjunctive techniques applicable to cytopathology such as immunocytochemistry, FISH, ISH, and HPV DNA testing methods will also be presented. *Mode of delivery:* Lecture and Lab. *Pre-Requisites:* MCP 470 Laboratory Techniques I *Offered:* Spring. *Instructor of Record:* Keisha Brooks (Spring).
- MCP 481 Microscopic Evaluation II** *Credit: 4 (0-180)* Course in the study, interpretation and diagnosis of cytologic specimens from the respiratory tract, urinary tract, gastrointestinal tract, central nervous system and body cavity fluids. Didactic material introduced in 461 MCP, Diagnostic Cytopathology, is reinforced. *Mode of delivery:* Lab. *Pre-Requisites:* MCP 440 Microscopic Evaluation I *Offered:* Spring. *Instructor of Record:* Keisha Brooks (Spring).
- MCP 494 Principles of Research** *Credit: 1 (15-0)* A lecture and Independent study course in which the basic elements of research are presented including literature searches, statistical analysis of data, and scientific writing. Students identify a particular research problem for study, review pertinent literature, prepare a bibliography, and develop a plan to collect and analyze data. Students are required to prepare a request for approval by the IRB. Students will also review and interpret selected current literature articles and give verbal presentations for discussion. *Mode of delivery:* Didactic and Independent study. *Offered:* Spring. *Instructor of Record:* Dr. Barbara Dubray-Benstein (Spring).
- MCP 515 Basic Education and Management Principles** *Credit: 2 (25-0)* Principles of learning with specific application to the development of instructional objectives, strategies and evaluation for specific teaching-learning situations. Also basic principles of management with particular emphasis on the clinical laboratory. Includes the basic management process, personnel supervision, identification and allocation of resources and simulated problem solving. Provides practical application of management principles under the supervision of local laboratory managers. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Linda Ross (Spring).

- MCP 520 *Advanced Techniques in Molecular Biology* Credit: 2 (20-40)** Basic concepts, principles, and applications of technological advancements in laboratory science including genetic technologies, flow cytometry, HLA tissue typing, nucleic acid hybridization and amplification techniques and biosensors. Provides opportunity for students to understand how basic scientific discoveries impact patient diagnosis, treatment and prognosis. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Keisha Brooks (Fall).
- MCP 551 *Statistics* Credit: 1 (15-0)** Course in which students apply statistical analyses to clinical problems. Students will develop an understanding of how descriptive and inferential statistics can be used in research. Students will apply knowledge of statistics in critiquing published articles. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Dr. Marcia Sharp (Fall).
- MCP 552 *Histotechnology Theory II* Credit: 3 (45-0)** The theory of enzyme histochemistry will be discussed as it relates to muscle disease and the identification of leukemic cells. Immunoenzyme-histochemistry, immunofluorescence, the selection of antibodies, preparation of controls and evaluation of the final results are included. The theory and practice of preparation of samples for examination by electron microscopy will be discussed. Course objectives require discussion of quality control, quality assurance and procedure writing. *Mode of delivery:* Didactic Online. *Pre-Requisites:* MCP 420 Histotechnology Theory I and MCP 435 Histotechnology Practice I *Offered:* Fall. *Instructor of Record:* Sheila Criswell (Fall).
- MCP 560 *Microscopic Evaluation III* Credit: 3 (0-135)** Study, interpretation and diagnosis of fine needle aspiration specimens. Didactic material introduced in 575 MCP, Advanced Diagnostic Cytopathology, is reinforced. *Mode of delivery:* Lab. *Pre-Requisites:* MCP 440 Microscopic Evaluation I, MCP 481 Microscopic Evaluation II *Offered:* Fall. *Instructor of Record:* Keisha Brooks (Fall).
- MCP 565 *Histotechnology Practice II* Credit: 3 (0-135)** Students perform and evaluate enzyme histochemical stains and immunohistochemical procedures. Preparation of samples for electron microscopy evaluation including sample processing and staining, use of the Ultra Microtome and the use of both Transmission and Scanning Electron Microscopes is included. Didactic material from Lecture Histotechnology Theory II is reinforced. *Mode of delivery:* Lab. *Pre-Requisites:* MCP 420 Histotechnology Theory I and MCP 435 Histotechnology Practice II *Offered:* Fall. *Instructor of Record:* Sheila Criswell (Fall).
- MCP 575 *Advanced Diagnostic Cytopathology* Credit: 3 (45-0)** Gross and microscopic anatomy of organ sites accessible by fine needle aspiration is presented. Emphasis is placed on the differential diagnostic criteria used to make accurate interpretations in all types of cytologic material. Special stains and other ancillary techniques such as flow cytometry, immunocytochemistry and molecular diagnostics are presented in terms of their efficacy and significance for diagnosis and prognosis. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* MCP 451 Gynecologic Cytopathology and MCP 461 Diagnostic Cytopathology *Offered:* Fall. *Instructor of Record:* Dr. Barbara DuBray-Benstein (Fall).
- MCP 581 *Microscopic Evaluation IV* Credit: 4 (0-180)** Study, interpretation and diagnosis of all types of cytologic specimens. Students continue to synthesize didactic material from courses MCP 451, MCP 461 and MCP 575 and utilize it in terms of microscopic evaluation. Emphasis is placed on sensitivity and specificity of diagnosis while developing proficiency in microscopic analysis of routine cytologic case material in preparation for off-site clinical rotations. *Mode of delivery:* Lab. *Pre-Requisites:* MCP 440 Microscopic Evaluation I, MCP 481 Microscopic Evaluation II, and MCP 560 Microscopic Evaluation III *Offered:* Spring. *Instructor of Record:* Dr. Barbara Dubray-Benstein (Spring).
- MCP 583 *Ethics and Professional Issues* Credit: 1 (15-0)** A course in professional and ethical issues as they relate to the practice of cytopathology and histotechnology. Current laboratory regulations, professional roles and responsibilities, ethical approaches to problem-solving, medical-legal issues and other special topics are discussed. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Barbara Dubray-Benstein (Spring).

- MCP 590 Histotechnology Practicum** *Credit: 6 (6 weeks)* A clinical practice course under supervision in a laboratory setting where students practice tissue processing, embedding, microtomy, and routine staining; perform and evaluate histochemical stains including preparing and selecting appropriate controls and evaluating the results. Students may also receive supervised experience in an electron microscopy laboratory performing specimen processing, preparation of grids, operating TEM and SEM microscopes, and composing micrographs. *Mode of delivery:* Clinical practice. *Pre-Requisites:* MCP 420 Histotechnology Theory I, MCP 435 Histotechnology Practice I, MCP 552 Histotechnology Theory II, and MCP 565 Histotechnology Practice II *Offered:* Fall. *Instructor of Record:* Sheila Criswell (Fall).
- MCP 592 Research Seminar I** *Credit: 1 (0-45)* An independent research project course. Practicum course in which the student designs, conducts and report on a research project in the field of cytopathology. Students also participate in discussions of current journal articles and present a known diagnostic case in a continuing education forum. *Mode of delivery:* Independent research project. *Pre-Requisites:* MCP 494 Principles of Research *Offered:* Fall. *Instructor of Record:* Keisha Brooks (Fall).
- MCP 593 Research Seminar II** *Credit: 1 (0-45)* an independent research project course. Presentation of a research project and submission of a written scientific paper. Students are expected to present their research data in the form of an abstract or poster at a state/regional or national meeting and/or submit their paper for publication in an appropriate scientific journal. Students also participate in discussions of current journal articles and present an unknown diagnostic case in a continuing education forum. *Mode of delivery:* Independent research project. *Pre-Requisites:* MCP 494 Principles of Research and MCP 592 Research Seminar I *Offered:* Spring. *Instructor of Record:* Dr. Barbara Dubray-Benstein (Spring).
- MCP 597 Cytology Practicum** *Credit: 8 (8 weeks)* Clinical experience under supervision in a cytopathology laboratory setting. Students perform microscopic evaluation of all types of cytologic material with efficiency and an emphasis on accuracy of interpretation. *Mode of delivery:* Clinical practice. *Pre-Requisites:* MCP 451 Gynecologic Cytopathology, MCP 440 Microscopic Evaluation I, MCP 461 Diagnostic Cytopathology, MCP 481 Microscopic Evaluation II, MCP 575 Advanced Diagnostic Cytopathology, MCP 560 Microscopic Evaluation III *Offered:* Spring. *Instructor of Record:* Keisha Brooks (Spring).
- MLS 401 Medical Laboratory Practices** *Credit: 3* The principles of safe operations of a clinical laboratory including Standard Precautions, OSHA regulations and ergonomic practices. Urinalysis will include quality control, renal physiology and the pathology of kidney abnormalities. An immunological methods section reviews immunodiagnostic basics, including agglutination, precipitation, neutralization, immunofluorescence, and labeled immunoassays with the application on diagnosing infectious diseases. *Mode of delivery:* Didactic Online. *Co-Requisites:* MLS 402 Clinical Practicum I *Offered:* Fall.
- MLS 402 Clinical Practicum I** *Credit: 1* Course including experience in immunology under supervision in a service laboratory where emphasis is placed on technical proficiency. *Mode of delivery:* Clinical practice. *Co-Requisites:* MLS 401 Medical Laboratory Practices *Offered:* Fall.
- MLS 403 Clinical Chemistry** *Credit: 5* This course will emphasize chemical measurements of physiological indicators of normal and abnormal human metabolism. Topics covered include carbohydrates, proteins, renal function, arterial blood gases, cardiac markers, liver function, lipid testing, nutritional assessment, enzymes, endocrinology, tumor markers, prenatal testing, newborn screening for inborn errors of metabolism, therapeutic drug monitoring, and toxicology. Case studies will be used to correlate laboratory generated data with clinical information. Basic principles of quality control including Westgard Rules, calculation of mean, median, mode, standard deviation and coefficient of variation will be reviewed. *Mode of delivery:* Didactic Online. *Co-Requisites:* MLS 404 Clinical Practicum II *Offered:* Fall.
- MLS 404 Clinical Practicum II** *Credit: 2* Course including experience in clinical chemistry under supervision in a service laboratory where emphasis is placed on technical proficiency. *Mode of delivery:* Clinical practice. *Co-Requisites:* MLS 403 Clinical Chemistry *Offered:* Fall.

- MLS 405 Hematology** *Credit: 5* Principles of hematopoiesis, normal and abnormal blood cell physiology, function and morphology, principles of normal and abnormal hemostasis, routine and special laboratory techniques in hematology and coagulation, correlation of disease states with laboratory results, and quality control. *Mode of delivery:* Didactic Online. *Co-Requisites:* MLS 406 Clinical Practicum III *Offered:* Spring.
- MLS 406 Clinical Practicum III** *Credit: 2* Course including experience in hematology under supervision in a service laboratory where emphasis is placed on technical proficiency. *Mode of delivery:* Clinical practice. *Co-Requisites:* MLS 405 Hematology *Offered:* Spring.
- MLS 407 Blood Bank** *Credit: 5* The course covers theories of immunohematology with application to clinical blood banking. Lecture sessions include technical aspects related to blood group antigens and antibodies, serological procedures, quality control, donor requirements, blood storage, and blood components with application of this knowledge to problem solving in antibody identification, various hemolytic diseases, adverse effects of transfusion, and transfusion therapy. Also encompassed in this course are basic concepts of the immune response such as antigen and antibody interactions, the complement system, disorders of the immune response, and hypersensitivity reactions. *Mode of delivery:* Didactic Online. *Co-Requisites:* MLS 408 Clinical Practicum IV *Offered:* Spring.
- MLS 408 Clinical Practicum IV** *Credit: 2* Course including experience in blood banking under supervision in a service laboratory where emphasis is placed on technical proficiency. *Mode of delivery:* Clinical practice. *Co-Requisites:* MLS 407 Blood Bank *Offered:* Spring.
- MLS 409 Clinical Microbiology** *Credit: 5* Clinical microbiology, mycology, parasitology and virology with emphasis on the isolation, identification, classification and antibiotic sensitivity testing, where appropriate, of human pathogenic microorganisms. Included are transmission, pathogenesis, pathophysiology and immunology of infectious disease as well as epidemiology, proper specimen collection and handling and quality assurance. *Mode of delivery:* Didactic Online. *Co-Requisites:* MLS 410 Clinical Practicum V *Offered:* Fall. *Instructor of Record:* Linda Ross (Fall).
- MLS 410 Clinical Practicum V** *Credit: 2* Course including experience in microbiology under supervision in a service laboratory where emphasis is placed on technical proficiency. *Mode of delivery:* Clinical practice. *Co-Requisites:* MLS 409 Clinical Microbiology *Offered:* Fall. *Instructor of Record:* Linda Ross (Fall).
- MLS 501 Advanced Laboratory Practices** *Credit: 4* Principles of laboratory management, education, ethics, and professionalism will be covered. Discussion of the elements of research, including scientific writing, statistical analysis of data, seminar preparation, and literature searches. Current topics such as the use of animals in scientific research and ethics in research will also be included. Online review material and practice tests for the national board of certification exam will be conducted in this course. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Kathleen Kenwright (Fall).
- MT 411 Biochemistry** *Credit: 2 (30-0)* The biosynthesis and metabolism of carbohydrates, lipids, proteins, and amino acids and basics of enzymology. DNA replication and RNA synthesis. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Roderic Hori (Fall).
- MT 412 Clinical Analysis** *Credit: 3 (30-40)* Principles involved in preparing various types of solutions and dilutions used in the clinical laboratory. Also laboratory safety, and organic chemistry review. Basic principles of spectrophotometry, chromatography, electrochemistry and radioisotopes. Principles of enzyme kinetics, pH and buffer systems. Laboratory exercises support lecture material. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Amy Cox (Fall).
- MT 413 Introduction to Pathology** *Credit: 1 (20-0)* Basic concepts of pathology with emphasis on the relationship of historical, physical and laboratory findings to the patho-physiology of disease. Emphasizes vocabulary of disease and disease mechanisms. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Dr. Cameila Johns (Fall).

- MT 414 Parasitology** *Credit: 2 (20-20)* Lecture and Lab exercises emphasizing classification and identification of parasites of medical importance including morphology of infective and diagnostic forms. Also included will be consideration of arthropod vectors, laboratory quality control and proper specimen collection and handling. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Dr. Linda Pifer (Fall).
- MT 415 Urinalysis** *Credit: 2 (20-20)* Didactic presentations and laboratory experience in the examination of urines. This includes quality control, renal physiology and the pathology of kidney abnormalities. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* LeiLani Collins (Fall).
- MT 418 Introduction to Clinical Laboratory Sciences** *Credit: 2 (20-20)* A lecture and Lab designed to introduce new laboratory science students to the principles of Standard Precautions and safety in the laboratory, the use of the microscope and identification of basic human cells. Principles of specimen collection, dilution calculations and cell suspensions will also be covered. An introduction to medical terminology, healthcare professions, professional attributes and strategies for student success in the professional programs are discussed. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Linda Ross (Fall).
- MT 421 Human Genetics** *Credit: 1 (20-0)* A study of the mechanisms underlying human genetics and their medical applications. Discussions will emphasize the fundamental concepts of genetics; the structure and function of genes, chromosomes, DNA and RNA; replication; transmission, and recombination; and the frequency of given genes in the population. A variety of genetic aberrations will be discussed in relationship to the more common medical phenomena. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Linda Pifer (Spring).
- MT 422 Clinical Chemistry I** *Credit: 3 (30-40)* Course including basic concepts of laboratory instrumentation, troubleshooting techniques, operation, evaluation, and selection of instruments. Lectures and assigned readings emphasizing chemical measurements of physiological indicators of normal and abnormal human metabolism. Correlation of laboratory generated data with the available clinical information. Laboratory experience in determining constituents of body fluids, principles of chemical analysis, use and care of equipment and identification of sources of error. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* MT 412 Clinical Analysis *Offered:* Spring. *Instructor of Record:* Amy Cox (Spring).
- MT 425 Urinalysis Clinical Practicum** *Credit: 1 (1 week)* Practical clinical laboratory experience in the examination of urines. This includes quality control, renal physiology and the pathology of kidney abnormalities. *Mode of delivery:* Practical clinical laboratory. *Co-Requisites:* MT 415 Urinalysis *Offered:* Fall. *Instructor of Record:* LeiLani Collins (Fall).
- MT 427 Cell Biology** *Credit: 2 (30-0)* A study of the structure and function of organelles, biosynthetic pathways within the cell, cellular production of energy, and membrane transport systems. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Roderick Hori (Spring).
- MT 431 Hematology I** *Credit: 3 (30-60)* Course covering principles of hematopoiesis, normal and abnormal blood cell physiology, function and morphology, principles of normal and abnormal hemostasis, routine and special laboratory techniques in hematology and coagulation, correlation of disease states with laboratory results, and quality control. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* LeiLani Collins (Spring).
- MT 432 Clinical Microbiology I** *Credit: 4 (30-90)* Course in clinical microbiology and mycology with emphasis on the isolation, identification and antibiotic sensitivity testing, where appropriate, of human pathogenic microorganisms. Included are pathogenesis and pathophysiology of infectious disease as well as epidemiology and quality assurance. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Linda Ross (Spring).

- MT 433 Clinical Chemistry II** *Credit: 3 (30-40)* Course including basic concepts of laboratory instrumentation, troubleshooting techniques, operation, evaluation, and selection of instruments. Lectures and assigned readings emphasizing chemical measurements of physiological indicators of normal and abnormal human metabolism. Correlation of laboratory generated data with the available clinical information. Laboratory experience in determining constituents of body fluids, principles of chemical analysis, use and care of equipment and identification of sources of error. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* MT 412 Clinical Analysis and MT 422 Clinical Chemistry I *Offered:* Spring. *Instructor of Record:* Kathleen Kenwright (Spring).
- MT 434 Basic and Clinical Immunology I** *Credit: 3 (30-40)* A study of the fundamental concepts of human immunology, both theoretical and practical application, which includes the in vivo mechanisms underlying the response to infectious agents, alteration of immunity, aberrant immunity, tumor immunity, and hypersensitivity. Theoretical principles of the structure and functions of antigens and antibodies will be applied to diagnostic immunology / serology testing for the assessment of various disease states. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Thomas Williamson (Spring).
- MT 441 Hematology II: Clinical Practicum** *Credit: 2 (2 weeks)* Experience under supervision including application of appropriate knowledge and skills in a service laboratory setting. *Mode of delivery:* Clinical practice. *Offered:* Fall. *Instructor of Record:* LeiLani Collins. (Spring).
- MT 442 Clinical Microbiology II: Clinical Practicum** *Credit: 3 (3 weeks)* Course including practical application of clinical microbiology and mycology principles in a service laboratory setting under supervision. *Mode of delivery:* Clinical practice. *Pre-Requisites:* 432 MT, Clinical Microbiology I *Offered:* Fall. *Instructor of Record:* Linda Ross (Fall).
- MT 443 Clinical Chemistry III: Clinical Practicum** *Credit: 2 (2 weeks)* Experience under supervision in a service laboratory setting. *Mode of delivery:* Clinical practice. *Pre-Requisites:* MT 412 Clinical Analysis, MT 422 Clinical Chemistry I, MT 433 and Clinical Chemistry II *Offered:* Spring. *Instructor of Record:* Kathleen Kenwright (Spring).
- MT 444 Immunology/Serology II Clinical Practicum** *Credit: 1 (1 week)* Clinical practice under supervision in a service laboratory where emphasis is placed on technical proficiency. This course will be discontinued after Fall 2013. Course Director: Thomas Williamson. *Mode of delivery:* Clinical practice. *Offered:* Fall. *Instructor of Record:* Thomas Williamson (Fall).
- MT 511 Hematology III** *Credit: 4 (40-60)* Course covering principles of hematopoiesis, normal and abnormal blood cell physiology, function and morphology, principles of normal and abnormal hemostasis, routine and special laboratory techniques in hematology and coagulation, correlation of disease states with laboratory results, and quality control. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* 431 MT, Hematology I, and 441 MT, Hematology II *Offered:* Fall. *Instructor of Record:* LeiLani Collins (Fall).
- MT 512 Blood Banking I** *Credit: 5 (60-40)* Theories of immunohematology with application to clinical blood banking. Includes theoretical and technical considerations of blood groups, serological procedures, transfusion therapy, related pathologic mechanisms and the production of blood products. Problem solving experience related to these concepts is provided. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Thomas Williamson (Fall).
- MT 513 Clinical Chemistry IV** *Credit: 3 (30-40)* Course including basic concepts of laboratory instrumentation, troubleshooting techniques, operation, evaluation, and selection of instruments. Lectures and assigned readings emphasizing chemical measurements of physiological indicators of normal and abnormal human metabolism. Correlation of laboratory generated data with the available clinical information. Laboratory experience in determining constituents of body fluids, principles of chemical analysis, use and care of equipment and identification of sources of error. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* 412 MT, Clinical Analysis; 422 MT, Clinical Chemistry I; 433 MT, Clinical Chemistry II; and 443 MT, Clinical Chemistry III *Offered:* Fall. *Instructor of Record:* Kathleen Kenwright (Fall).

- MT 515 Basic Educational and Management Principles** *Credit: 2 (25-0)* Principles of learning with specific application to the development of instructional objectives, strategies and evaluation for specific teaching-learning situations. Also basic principles of management with particular emphasis on the clinical laboratory. Includes the basic management process, personnel supervision, identification and allocation of resources and simulated problem solving. Provides practical application of management principles under the supervision of local laboratory managers. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Linda Ross (Spring).
- MT 517 Principles of Laboratory Utilization** *Credit: 1 (20-0)* Principles affecting the cost effective and efficient use of laboratory services in an environment of managed care will be presented. Special emphasis will be placed on the challenge of maintaining quality services while containing costs and the knowledge and skills necessary for successful consultations with physicians on effective use of the laboratory. Clinical correlation case presentations are also included. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Kathleen Kenwright (Spring).
- MT 518 Introduction to Research I** *Credit: 1 (20-0)* Discussion of the elements of research, including scientific writing, statistical analysis of data, seminar preparation, and literature searches. Current topics such as the use of animals in scientific research and ethics in research will also be discussed. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Linda Pifer (Fall).
- MT 519 Virology** *Credit: 1 (15-0)* The nature, classification, physiochemical properties, multiplication, host cell relationships and immunology of viruses of human importance. Transmission, pathogenesis and all current techniques of laboratory diagnosis will also be discussed. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Linda Pifer (Fall).
- MT 520 Advanced Techniques in Molecular Biology** *Credit: 2 (20-40)* Basic concepts, principles, and applications of technological advancements in laboratory science including genetic technologies, flow cytometry, HLA tissue typing, nucleic acid hybridization and amplification techniques, and biosensors. Provides opportunity for students to understand how basic scientific discoveries impact patient diagnosis, treatment, and prognosis. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Keisha Brooks (Fall).
- MT 521 Hematology IV: Clinical Practicum** *Credit: 3 (3 weeks)* Experience under supervision including application of appropriate knowledge and skills in a service laboratory setting. *Mode of delivery:* Clinical practice. *Pre-Requisites:* 431 MT Hematology I, 441 MT Hematology II and 511 MT Hematology III *Offered:* Spring. *Instructor of Record:* LeiLani Collins (Spring).
- MT 523 Clinical Chemistry V: Clinical Practicum** *Credit: 2 (2 weeks)* Experience under supervision in a service laboratory setting. *Mode of delivery:* Clinical practice. *Pre-Requisites:* 412 MT Clinical Analysis, 422 MT Clinical Chemistry I, 433 MT Clinical Chemistry II, 443 MT Clinical Chemistry III, and 513 MT Clinical Chemistry IV *Offered:* Spring. *Instructor of Record:* Kathleen Kenwright (Spring).
- MT 531 Off Campus Experience** *Credit: 1 (2 weeks)* WEEK I: Students may choose to concentrate their activity in areas related to medical laboratory science such as forensic pathology or to return to any area for in-depth study. Objectives to be met will be mutually set by student and Faculty. WEEK 2: Students spend one week on site in a clinical laboratory which employs molecular techniques. Experiences vary according to site and include techniques such as flow cytometry, HLA tissue typing, molecular pathology, genetics or microbiology, electron microscopy, or cytogenetics. Objectives to be met will be mutually set by student and Faculty. *Mode of delivery:* Clinical practice. *Offered:* Spring. *Instructor of Record:* LeiLani Collins (Spring).

- MT 532 Clinical Microbiology III** *Credit: 2 (20-20)* Course in clinical microbiology and mycology with emphasis on the isolation, identification and antibiotic sensitivity testing, where appropriate, of human pathogenic microorganisms. Included are pathogenesis and pathophysiology of infectious disease as well as epidemiology and quality assurance. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* 432 MT, Clinical Microbiology 1; 442 MT, Clinical Microbiology II *Offered:* Fall. *Instructor of Record:* Linda Ross (Fall).
- MT 533 Ethics and Professional Issues** *Credit: 1 (20-0)* Considerations related to the identification and management of professional and ethical issues in the delivery of health care particularly as they relate to the practice of medical laboratory science. Faculty led and student led discussions on specific topics will be utilized. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Linda Ross (Spring).
- MT 535 Research II Practicum** *Credit: 2 (2 weeks)* Course involving literature review of recent research publications in various medical laboratory science disciplines, submission of a paper and presentation in a formal seminar. Emphasis on importance of research in advancement of clinical laboratory sciences. *Mode of delivery:* Independent study. *Offered:* Spring. *Instructor of Record:* Dr. Linda Pifer (Spring).
- MT 542 Clinical Microbiology IV: Clinical Practicum** *Credit: 2 (2 weeks)* Courses including practical application of clinical microbiology and mycology principles in a service laboratory setting under supervision. *Mode of delivery:* Clinical practice. *Pre-Requisites:* 432 MT, Clinical Microbiology I, 442 MT, Clinical Microbiology II, and 532 MT, Clinical Microbiology III *Offered:* Spring. *Instructor of Record:* Linda Ross (Spring).
- MT 544 Blood Banking II: Clinical Practicum** *Credit: 4 (4 weeks)* Experience under supervision in a service laboratory where emphasis is placed on technical proficiency. *Mode of delivery:* Clinical practice. *Pre-Requisites:* MT 512 Blood Bank *Offered:* Spring. *Instructor of Record:* Thomas Williamson (Spring).
- MT 611 Hematology III** *Credit: 4 (40-60)* Course covering principles of hematopoiesis, normal and abnormal blood cell physiology, function and morphology, principles of normal and abnormal hemostasis, routine and special laboratory techniques in hematology and coagulation, correlation of disease states with laboratory results, and quality control. Graduate students will have additional assignments which may include but are not limited to: additional reading assignments, essay test questions, journal critiques, case studies, presentations, research papers and independent learning assignments. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* 431 MT, Hematology I, and 441 MT, Hematology II; Students must be admitted to the graduate program in Clinical Laboratory Sciences *Offered:* Fall. *Instructor of Record:* LeiLani Collins (Fall).
- MT 612 Blood Banking I** *Credit: 5 (60-40)* Theories of immunohematology with application to clinical blood banking. Includes theoretical and technical considerations of blood groups, serological procedures, transfusion therapy, related pathologic mechanisms and the production of blood products. Problem solving experience related to these concepts is provided. Graduate students will have additional assignments which may include but are not limited to: additional reading assignments, essay test questions, journal critiques, case studies, presentations, research papers and independent learning assignments. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Students must be admitted to the graduate program in Clinical Laboratory Sciences *Offered:* Fall. *Instructor of Record:* Thomas Williamson (Fall).

- MT 613 Clinical Chemistry IV** *Credit: 3 (30-40)* Course including basic concepts of laboratory instrumentation, troubleshooting techniques, operation, evaluation, and selection of instruments. Lectures and assigned readings emphasizing chemical measurements of physiological indicators of normal and abnormal human metabolism. Correlation of laboratory generated data with the available clinical information. Laboratory experience in determining constituents of body fluids, principles of chemical analysis, use and care of equipment and identification of sources of error. Graduate students will have additional assignments which may include but are not limited to: additional reading assignments, essay test questions, journal critiques, case studies, presentations, research papers and independent learning assignments. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* 412 MT Clinical Analysis, 422 MT Clinical Chemistry I, 433 MT Clinical Chemistry II, and 443 MT Clinical Chemistry III. Students must be admitted to the graduate program in Clinical Laboratory Sciences *Offered:* Fall. *Instructor of Record:* Kathleen Kenwright (Fall).
- MT 621 Hematology IV: Clinical Practicum** *Credit: 3 (3 weeks)* Experience under supervision including application of appropriate knowledge and skills in a service laboratory setting. Graduate students will have additional assignments which may include but are not limited to: additional reading assignments, essay test questions, journal critiques, case studies, presentations, research papers and independent learning assignments. *Mode of delivery:* Clinical practice. *Pre-Requisites:* 431 MT Hematology I, 441 MT Hematology II, and 611 MT Hematology III. Students must be admitted to the graduate program in Clinical Laboratory Sciences *Offered:* Spring. *Instructor of Record:* LeiLani Collins (Spring).
- MT 623 Clinical Chemistry V: Clinical Practicum** *Credit: 2 (2 weeks)* Experience under supervision in a service laboratory setting. Graduate students will have additional assignments which may include but are not limited to: additional reading assignments, essay test questions, journal critiques, case studies, presentations, research papers and independent learning assignments. *Mode of delivery:* Clinical practice. *Pre-Requisites:* 412 MT Clinical Analysis, 422 MT Clinical Chemistry I, 433 MT Clinical Chemistry II, 443 MT Clinical Chemistry III and 613 MT Clinical Chemistry IV. Students must be admitted to the graduate program in Clinical Laboratory Sciences program *Offered:* Spring. *Instructor of Record:* Kathleen Kenwright (Spring).
- MT 632 Clinical Microbiology III** *Credit: 2 (20-20)* Course in clinical microbiology and mycology with emphasis on the isolation, identification and antibiotic sensitivity testing, where appropriate, of human pathogenic microorganisms. Included are pathogenesis and pathophysiology of infectious disease as well as epidemiology and quality assurance. Graduate students will have additional assignments which may include but are not limited to: additional reading assignments, essay test questions, journal critiques, case studies, presentations, research papers and independent learning assignments. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* 432 MT, Clinical Microbiology I. Students must be admitted to the graduate program in Clinical Laboratory Sciences *Offered:* Fall. *Instructor of Record:* Linda Ross (Fall).
- MT 642 Clinical Microbiology IV: Clinical Practicum** *Credit: 2 (2 weeks)* Courses including practical application of clinical microbiology and mycology principles in a service laboratory setting under supervision. Graduate students will have additional assignments which may include but are not limited to: additional reading assignments, essay test questions, journal critiques, case studies, presentations, research papers and independent learning assignments. *Mode of delivery:* Clinical practice. *Pre-Requisites:* 432 MT, Clinical Microbiology I, 442 MT, Clinical Microbiology II, and 632 MT, Clinical Microbiology III. Students must be admitted to the graduate program in Clinical Laboratory Sciences *Offered:* Spring. *Instructor of Record:* Linda Ross (Spring).
- MT 644 Blood Banking II: Clinical Practicum** *Credit: 4 (4 weeks)* Experience under supervision in a service laboratory where emphasis is placed on technical proficiency. Graduate students will have additional assignments which may include but are not limited to: additional reading assignments, essay test questions, journal critiques, case studies, presentations, research papers and independent learning assignments. *Mode of delivery:* Clinical practice. *Pre-Requisites:* MT 612 Blood Bank *Offered:* Spring. *Instructor of Record:* Thomas Williamson (Spring).

DENTAL HYGIENE

Cassandra B. Holder Ballard, RDH, MPA, Ed.D., Chair

The Department of Dental Hygiene offers two degree programs, an entry-level Bachelor of Science in Dental Hygiene, and a post-professional Master of Dental Hygiene.

Academic Calendar for Dental Hygiene Programs

| Date | Activity | Class |
|--|-------------------------------------|---|
| Monday, August 12, 2013 | Last day to register Fall 3 | all |
| Monday, August 12, 2013 | Tuition and fees due Fall 3 | all |
| Wednesday, August 14 -17, 2013 | Orientation | New BSDH students MDH who entered Spring 2013 and Fall 13 |
| Monday, August 19, 2013 | Fall 3 Classes begin | all |
| Monday, September 2, 2013 | Labor Day (Offices closed) | |
| Friday, November 1, 2013 | Spring 2 registration begins | all |
| November 25-29, 2013 | Fall Break | all |
| Thursday, November 28 – Friday, November 29, 2013 | Thanksgiving break (Offices closed) | |
| Sunday, December 6, 2013 | Last day of classes | all |
| December 9-13, 2013 | Final exam week | all |
| Friday, December 13, 2013 | Graduation | MDH students |
| Monday, December 23- Friday, December 27, 2013 | University Holiday (offices closed) | |
| Wednesday, January 1, 2014 | University Holiday (offices closed) | |
| Thursday, January 2, 2014 | Tuition and Fees Due Spring 2 | all |
| Monday, January 6, 2014 | Spring Classes Begin | all |
| Monday, January 20, 2014 | University Holiday (offices closed) | |
| Monday, March 10 – Friday, March 14, 2014 | Spring Break | all |
| Friday, April 18, 2014 | Spring Holiday (offices closed) | |
| Friday, May 2, 2014 | Last day of classes | all |
| Friday, May 9, 2014 | Last day of final exams | |
| Monday, May 26, 2014 | Memorial Day (offices closed) | |
| Friday, May 30, 2014 | Graduation | |
| Monday, July 7, 2014 | Summer Term 3 begin | BSDH students |
| Friday, August 8, 2014 | Summer Term 3 ends | BSDH students |

BACHELOR OF SCIENCE IN DENTAL HYGIENE (BSDH)

Cassandra B. Holder Ballard, RDH, MPA, Ed.D., Program Director

Program Objectives

The curriculum in dental hygiene is designed to prepare graduates with a broad based general education; and a level of professional competence necessary for current and future dental hygiene practice. Graduates are prepared to function effectively in a clinical office setting; and also possess advanced knowledge and skills required for careers in teaching, research, public health, and other related areas.

Curriculum Description

The Entry Level Program prepares graduates for entry into the field of dental hygiene. The program is designed as a full time “2 + 2” program that leads to a Bachelor of Science in Dental Hygiene Degree. The Entry Level Program is designed as the third and fourth years of a baccalaureate degree program. Two years of pre-professional college coursework are required prior to admission, and are followed by two years of professional coursework. The curriculum extends over five terms. Each term's courses must be passed before a student is allowed to progress to the next term. Students matriculate in the fall term and are eligible for the May graduation two academic years later. Didactic instruction and clinical practice are integrated throughout the curriculum and provide opportunities for interaction with dentist, dental hygienists, dental students, dental school faculty, and other health care professionals in the area, as dental hygiene services are included as a part of comprehensive health care.

Admission Requirements

To be eligible for consideration for admission into the BS dental hygiene program, applicants must meet the following requirements:

1. Completion of the following 58 credit hours of pre-requisite coursework with a grade of “C” or better in each course: (Note: Science courses that are delivered in a virtual or online format are not acceptable.)

| Prerequisite Course Work | Credit Hours |
|-------------------------------|--------------|
| Biology (General or Zoology)* | 4 |
| Microbiology | 4 |
| Human Anatomy and Physiology | 8 |
| General Chemistry** | 8 |
| Nutrition | 3 |
| English*** | 9 |
| Psychology | 3 |
| Sociology | 3 |
| Social Sciences**** | 6 |
| Speech | 3 |
| Electives | 7 |
| TOTAL | 58 |

* *Must be appropriate for science majors.*

** *Chemistry courses for Pre-Nursing students are acceptable. Must include content in biochemistry.*

*** *Must include Composition I and II and any literature.*

**** *Social Science courses may include psychology, sociology, anthropology, and philosophy.*

NOTE: Science courses must include laboratory.

2. A GPA of 2.5 is the minimum required for application to the program; however, a 3.0 or higher in prerequisite courses is considered competitive.
3. Submit official transcripts of above coursework.

4. Applicants whose native language is not English and who have neither graduated from a U.S. high school nor completed a minimum of 30 credit hours at a U.S. postsecondary institution are to submit an official TOEFL score. Preference is given to candidates with a minimum score of 100 (with a 26 or above in both the listening and speaking sections) of the internet-based test. <http://www.uthsc.edu/admissions/international-students.php>
5. Completed application form including an essay describing the applicant's reasons for choosing the profession and their career goals. A non-refundable application fee must accompany the application.
6. Pre-professional advisory committee recommendation from college or university attended OR two letters of recommendation from previous college instructors.
7. Ability to meet published technical standards (see below) of the College of Allied Health Sciences and the Entry-level Dental Hygiene degree program.

Applications are accepted online at <http://www.uthsc.edu/admissions/cahs.php>

Admission by Transfer to Dental Hygiene Program

Under exceptional circumstances, highly qualified students who are attending an accredited U.S. or Canadian dental hygiene program may be considered for placement in the Dental Hygiene program at the University of Tennessee Health Science Center, College of Allied Health Sciences. All such decisions will be considered contingent upon the quality of the applicant and the number of vacancies that have occurred in the present classes. Students earning baccalaureate degrees in dental hygiene must complete 30 of the last 36 credit hours at the University of Tennessee.

Health Requirements

In addition to general UTHSC requirements, all students are to comply with the University of Tennessee Health Science Center immunizations requirements. Those requirements are distributed to students prior to matriculation and may be found on the University Health Services website. <http://www.uthsc.edu/univheal/student%20services/newstudents.php>

Compliance records for students are maintained by University Health Services. Additionally, the Department of Dental Hygiene will monitor compliance with the immunization program.

Policies and procedures for immunization, testing, and post-exposure incidents have been developed to comply with Occupational Safety and Health Administration (OSHA), Centers for Disease Control (CDC), American Dental Association (ADA), American Dental Hygienists' Association (ADHA), and extramural site recommendations or policies. Dental hygiene students, in the course of their clinical responsibilities, have exposure to blood, blood products, tissue, secretions, or body fluids of patients potentially containing hepatitis B (HBV) and are at risk for HBV as well as other infectious diseases.

Dental hygiene students are required to be immunized against the Hepatitis B virus and are required to have a TB skin test annually. These services are provided by University Health Services at a nominal cost. Information about fulfilling these requirements is provided during new-student orientation.

Technical Standards

For admission to the Bachelor of Science and Masters of Dental Hygiene programs at the University of Tennessee Health Science Center, students are expected to be able to successfully meet the Technical Standards as outlined below. Students are required to sign the Technical Standards Commitment form indicating their understanding and ability to meet these standards either with or without accommodations (for persons with documented disabilities.) Questions about these technical standards should be directed to the program director.

UTHSC receives applications from a diverse body of potential students including those with disabilities. Reasonable accommodations to help students meet these technical standards will be provided where appropriate. Any student wishing accommodations should contact the Student Academic Support Service. Information regarding Disability Support Services can be found in the Catalog.

In the event a student cannot fulfill these Technical Standards with or without reasonable accommodations at any time in their program, the student will be ineligible for admission or continued enrollment in the program.

In addition to ensuring that students can meet the intellectual, emotional and physical criteria for the Dental Hygiene Program, it is imperative that the student possess the ability to provide for the safety of patients and others. This is the foundation of all Technical Standards and if this cannot be demonstrated, the student is deemed unable to meet the criteria outlined by the Technical Standards.

Visual and Perceptual Skills:

The practice of clinical dental hygiene requires that the student possess fine motor skills to hold small dental instruments while working within the limited confines of the oral cavity. Depth perception and excellent hand eye coordination are required when using sharp instruments to enter the oral cavity and perform functions within the oral cavity.

Other Sensory Skills:

Students must have correctable hearing in at least one ear and be able to develop reasonable skills of percussion and auscultation. Sensory and motor innervation of the hand and arm muscles must be intact and functioning normally as fine motor and tactile skills are an essential component of this profession.

Motor Skills:

Students must have sufficient motor function to elicit information from a patient by palpation, auscultation, percussion, and other diagnostic modalities. Candidates must also be able to perform the motor movement skills necessary to render clinical dental hygiene treatment, and have the physical strength to move themselves (by walker, cane or crutches as necessary) to a position enabling them to provide dental care. Additionally, the candidate must possess the strength to assist a patient in transferring themselves to and from a dental chair, and whenever necessary perform cardiopulmonary resuscitation for an extended period of time. Fine motor skills are expected of every student. The candidate should have full manual dexterity including the functioning of both arms, both wrists, both hands, both thumbs, and three fingers on each hand. Necessary clinical skills involve procedures requiring (but not limited to) grasping, fingering, pinching, pushing, pulling, holding, extending, and rotation.

Intellectual, Conceptual and Cognitive Skills:

Students must have the ability to measure, assess, calculate reason, analyze, and synthesize data. Problem solving, critical thinking and diagnosis (which include obtaining, interpreting, and documenting information) are essential skills. The ability to understand and comprehend three dimensional relationships is necessary.

Communication Skills:

The student is expected to be able to communicate clearly in English at a level of understanding appropriate to the ability of an individual patient to understand. This communication ability is expected both in the oral and written form. The clinical practice of dental hygiene requires the ability to accurately transfer gathered data into a patient record. Included in this area is therapeutic communication in which a candidate is expected to have (or be able to develop) skill in coaching, facilitating, and touching.

Emotional Stability/ Personal Temperament:

Direct interaction with patients requires that students are able to routinely demonstrate critical thinking, respond calmly, evenly and efficiently, and utilize good listening and communication skills. Students must have the ability to handle the stressors of academically rigorous coursework, as well as stress associated with working in a busy clinical setting with a variety of patients under time and patient management constraints. Time management skills are needed to meet deadlines and time critical tasks associated with professional education and practice. Prioritizing tasks to meet deadlines is expected. Compliance with clinical and workplace rules and regulations related to successful and safe clinical practice is required. The student must possess and demonstrate professional attributes and appearance.

General Education Competencies²⁷

1. **Communication** – Students must be able to communicate effectively in a style appropriate to the subject, occasion, and audience.
2. **Mathematics** – Students must be able to apply basic mathematical tools in the solution of real-world problems.
3. **Sciences** – Students must be able to apply principles of the natural, behavioral and social sciences in the solution of problems encountered.
4. **Critical Thinking** - Students must be able to demonstrate their ability to solve problems, construct and present cogent arguments in support of one's views, and understand and evaluate arguments presented by others.
5. **Information Literacy** – Students must be able to seek, access, critically evaluate and appropriately apply information.
6. **Technology** - Students must be able to use technology in communicating, solving problems, and acquiring information in a professional manner.

General education competencies will be measured through tools and strategies such as student performance on oral presentations, written critiques of research papers, and papers written in capstone courses. Math competencies may be measured through tools such as comprehensive math examinations prior to graduation. Students will be apprised of specific strategies to be used to evaluate their mastery of the general education competencies during new student orientation.

Scholarships

The following scholarships are available to students entering the Entry-level Dental Hygiene Degree program:

- UTNAA Scholarship
- Chancellor's Scholarship
- Barbara A. Young Scholarship
- Josephine Circle Scholarship
- Elizabeth Club Scholarship Elam Scholarship

²⁷ Required of all students enrolled in one of the UTHSC Bachelor of Science degree programs.

The Entry Level Program Curriculum (BSDH)

The Bachelor of Science in Dental Hygiene degree program curriculum consists of 5 terms. The following is a summary of the courses which are offered annually during the terms indicated.

FIRST TERM (Fall: Aug-Dec)

| Course | Credit (lec-lab-clinic contact) Hrs | Instructor |
|---|-------------------------------------|----------------|
| DH 410 Clinic Theory 1 | 3 (45-0-0) | Eleta Morgan |
| DH 411 Head and Neck Anatomy | 3 (45-0-0) | Reese Scroggs |
| DH 413 Dental Embryology, Histology & Anatomy | 4 (60-0-0) | Bobby Collins |
| DH 418 Clinic Theory 1 Lab | 2 (0-90-0) | Eleta Morgan |
| DH 424 Oral Radiology | 3 (30-45-0) | John Covington |
| TOTAL | 15 hours | |

SECOND TERM (Spring: Jan-May)

| Course | Credit (lec-lab-clinic contact) Hrs | Instructor |
|---|-------------------------------------|-------------------|
| DH 421 Clinic Practice 2 | 4 (0-0-240) | Eleta Morgan |
| DH 425 Oral Disease Prevention & Patient Ed | 2 (30-0-0) | Cassandra Ballard |
| DH 426 Clinic Theory 2 | 2 (30-0-0) | Colette Stewart |
| DH 427 General and Oral Pathology | 2 (30-0-0) | TBA |
| DH 437 Periodontology | 3 (45-0-0) | Ayda Khuri |
| DH 448 Dental Materials | 3 (15-45-0) | Susan Daniel |
| TOTAL | 16 hours | |

THIRD TERM (Summer: July-Aug)

| | | |
|---|----------------|---------------|
| DH 423 Transitional Clinic Practice | 2 (0-0-120) | Eleta Morgan |
| DH 536 Anxiety and Pain Control ²⁸ | 4 (30-90-0) | Bobby Collins |
| TOTAL | 6 hours | |

FOURTH TERM (Fall: Aug-Dec)

| | | |
|---------------------------------------|-----------------|----------------|
| DH 430 Clinic Practice 3 | 4 (0-0-240) | Eleta Morgan |
| DH 431 Clinic Theory 3 | 2 (30-0-0) | Susan Daniel |
| DH 434 Dental Pharmacology | 2 (30-0-0) | Marilyn Lee |
| DH 438 Community Dental Health Theory | 2 (30-0-0) | Susan Daniel |
| DH 532 Special Patient Care | 3 (45-0-0) | Nancy Williams |
| TOTAL | 13 hours | |

FIFTH TERM (Spring: Jan-May)

| | | |
|--|-----------------|----------------|
| DH 525 Clinic Theory 4 | 2 (30-0-0) | Eleta Morgan |
| DH 538 Community Dental Health Practicum | 3 (15--60-0) | Susan Daniel |
| DH 541 Clinic Practice 4 | 4 (0-0-240) | Eleta Morgan |
| DH 542 Ethics, Jurisprudence and Pract Mgt | 3 (45-0-0) | Elaine Stegman |
| TOTAL | 12 hours | |
| TOTAL HOURS | 62 hours | |

²⁸ Satisfactory completion of this course is required for progression in clinical courses.

Attendance Requirement

Dental hygiene students are expected to attend all scheduled classes, clinics, and laboratory assignments. If a student must miss a scheduled learning experience due to illness or emergency, he/she must notify the dental hygiene office no later than 8:30AM of the day missed. For any other absences, prior arrangements must be made with the specific instructor or course director with approval of the program director. Appointments for health services should not be made during scheduled learning experiences.

Clinical Affiliations

Clinical affiliation sites are located in West Tennessee counties, primarily Shelby County. Students accept the financial impact of traveling to clinical assignments.

Grading Policy

Course grades are based on a student's performance on written and practical examinations as well as clinical performance. Each term's courses must be passed before the student is allowed to progress to the next term. The point-grade conversion scale used in the dental hygiene program for all courses, **except** clinic practice courses, is as follows:

| | |
|----------|-----|
| 95 – 100 | = A |
| 85 – 94 | = B |
| 75 – 84 | = C |
| 70 – 74 | = D |
| Below 70 | = F |

The grading scale for all **clinic practice** courses is as follows:

| | |
|----------|-----|
| 95 – 100 | = A |
| 88 – 94 | = B |
| 80 – 87 | = C |
| 75 – 79 | = D |
| Below 75 | = F |

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Progress and Promotion

Students must maintain a GPA of 2.0 on a 4.0 scale in order to progress to the next term in good standing. Any student who earns a grade of D or less in any course or whose GPA falls below a 2.0 may be placed on academic probation or dismissed. Using the guidelines outlined for progress and promotion under the General Information section in this catalog, the student will be carefully evaluated by the Progress and Promotions Committee of the program to determine the course of action which is best for the student and for the program.

Requirements for Graduation - BSDH

The following requirements must be satisfied to earn the degree of Bachelor of Science of Dental Hygiene:

- A. Satisfactory completion of 62 credit hours of work.
- B. Students must complete coursework with a "C" (2.0 GPA) or better overall average
- C. Students must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.

Attendance at graduation is mandatory. Those unable to attend commencement must obtain permission to receive the degree *in absentia* by filing a written request with the Dean of the College.

Awards

Dental Hygiene Clinical Achievement Award

This award is given to the graduating student who has demonstrated the following professional traits: comprehensive knowledge, proficiency in rendering patient care, sensitivity to patient needs, and commitment to community health needs. These characteristics are accompanied by an apparent desire to assume responsibility as a member of the oral health team.

The Faculty Award

This award is presented by the faculty to the graduating student who has earned the highest scholastic average during the study of dental hygiene.

Excellence in Dental Hygiene Award

This award is sponsored by the Johnson & Johnson Healthcare Products. The recipients are recognized for outstanding academic excellence, evidence-based clinical practices, excellent patient management and communication skills and commitment to community service.

Sigma Phi Alpha Dental Hygiene Honor Society

The national dental hygiene honor society was founded in 1958. Eligibility for membership is based on scholarship, potential service to the profession, character, and leadership. Eligible students must rank in the top 25% of their class, however only 10% may be chosen annually.

Professional Leadership Award

This award recognizes the student who exhibited the greatest overall professional leadership in the class. Examples include, but are not limited to, the Student American Dental Hygienists' Association and the Memphis Dental Hygienists' Association involvement, holding class office, organizing volunteer activities, etc.

Community Service Award

This award is presented to the student(s) who exhibited the greatest enthusiasm for community service and school projects.

Golden Scaler Award

This award is sponsored by the Hu-Friedy Company and is presented to the student who is selected for outstanding clinical achievement.

Urban Smiles Award

One of the goals of Urban Smiles is to promote the importance of preventive dentistry in underserved populations. This award is given to the student who demonstrates a true heart for service, sincere compassion for the patient, and the spirit of teamwork.

Colgate STAR Award: This award is presented to the student who demonstrates dedication to the profession, outstanding achievement, compassion in patient care, displays enthusiasm for community service, and enjoys the role of dental hygienist.

Student Professional Organization Membership

Dental hygiene students qualify to become student members of the American Dental Hygienists' Association, and are encouraged to exercise this option.

Licensing Examination

Dental hygiene students take the National Dental Hygiene Board Examination in the spring term of the second year and must make a satisfactory score to be licensed in most states. Students must also pass the Southern Regional Dental Hygiene Board Examination to become licensed to practice dental hygiene in Tennessee and other states in this region. Faculty will provide information to students about the testing date and the location of this examination, and others throughout the country.

Accreditation

The UTHSC Program in Dental Hygiene is fully accredited by the American Dental Association Commission on Dental Accreditation, 211 East Chicago Avenue Suite 1900 Chicago, Illinois 60611

MASTER OF DENTAL HYGIENE DEGREE (MDH)

Nancy J. Williams, RDH, EdD, Program Director

Program Objectives

The College of Allied Health Sciences offers an online Master of Dental Hygiene (MDH) degree designed for licensed dental hygienists who desire to become a dental hygiene educator or administrator. This program provides the necessary educational experience for the student to teach at either the community college or university level. The program is offered either part-time (3-6.0 credit hours per term) or full-time (9.0 or more credit hours per term). This online program requires a maximum of one week during the first two years of enrollment on the UTHSC Memphis campus. However, since the purpose of this program is to prepare faculty members and administrators, the graduate student must complete coursework requirements for DH 702 (Internship in Dental Hygiene Education) in a face-to-face format. A dental hygiene educational program located near the graduate student's home may be selected for this course if approved by the graduate program director to complete this requirement.

Technical Standards

For admission to the Bachelor of Science or the Masters of Dental Hygiene programs at the University of Tennessee Health Science Center, students are expected to be able to successfully meet the Technical Standards as outlined below. Students are required to sign the Technical Standards Commitment form indicating their understanding and ability to meet these standards either with or without accommodations (for persons with documented disabilities.) Questions about these technical standards should be directed to the program director.

UTHSC receives applications from a diverse body of potential students including those with disabilities. Reasonable accommodations to help students meet these technical standards will be provided where appropriate. Any student wishing accommodations should contact the Student Academic Support Service. Information regarding Disability Support Services can be found in the Catalog.

In the event a student cannot fulfill these Technical Standards with or without reasonable accommodations at any time in their program, the student will be ineligible for admission or continued enrollment in the program.

In addition to ensuring that students can meet the intellectual, emotional and physical criteria for the Dental Hygiene Program, it is imperative that the student possess the ability to provide for the safety of patients and others. This is the foundation of all Technical Standards and if this cannot be demonstrated, the student is deemed unable to meet the criteria outlined by the Technical Standards.

Visual and Perceptual Skills:

The practice of clinical dental hygiene requires that the student possess fine motor skills to hold small dental instruments while working within the limited confines of the oral cavity. Depth perception and excellent hand eye coordination are required when using sharp instruments to enter the oral cavity and perform functions within the oral cavity.

Other Sensory Skills:

Students must have correctable hearing in at least one ear and be able to develop reasonable skills of percussion and auscultation. Sensory and motor innervation of the hand and arm muscles must be intact and functioning normally as fine motor and tactile skills are an essential component of this profession.

Motor Skills:

Students must have sufficient motor function to elicit information from a patient by palpation, auscultation, percussion, and other diagnostic modalities. Candidates must also be able to perform the motor movement skills necessary to render clinical dental hygiene treatment, and have the physical strength to move themselves (by walker, cane or crutches as necessary) to a position enabling them to provide dental care. Additionally, the candidate must possess the strength to assist a patient in transferring themselves to and from a dental chair, and whenever necessary perform cardiopulmonary resuscitation for an extended period of time. Fine motor skills are expected of every student. The candidate should have full manual dexterity including the functioning of both arms, both wrists, both hands, both thumbs, and three fingers on each hand. Necessary clinical skills involve procedures requiring (but not limited to) grasping, fingering, pinching, pushing, pulling, holding, extending, and rotation.

Intellectual, Conceptual and Cognitive Skills:

Students must have the ability to measure, assess, calculate reason, analyze, and synthesize data. Problem solving, critical thinking and diagnosis (which include obtaining, interpreting, and documenting information) are essential skills. The ability to understand and comprehend three dimensional relationships is necessary.

Communication Skills:

The student is expected to be able to communicate clearly in English at a level of understanding appropriate to the ability of an individual patient to understand. This communication ability is expected both in the oral and written form. The clinical practice of dental hygiene requires the ability to accurately transfer gathered data into a patient record. Included in this area is therapeutic communication in which a candidate is expected to have (or be able to develop) skill in coaching, facilitating, and touching.

Emotional Stability/ Personal Temperament:

Direct interaction with patients requires that students are able to routinely demonstrate critical thinking, respond calmly, evenly and efficiently, and utilize good listening and communication skills. Students must have the ability to handle the stressors of academically rigorous coursework, as well as stress associated with working in a busy clinical setting with a variety of patients under time and patient management constraints. Time management skills are needed to meet deadlines and time critical tasks associated with professional education and practice. Prioritizing tasks to meet deadlines is expected. Compliance with clinical and workplace rules and regulations related to successful and safe clinical practice is required. The student must possess and demonstrate professional attributes and appearance.

Health Requirements

Graduate students must demonstrate sound physical and mental health consistent with the demands of the educational program and professional field. Since this is a distance learning program, graduate students must comply with drug and other screenings and immunization requirements at each clinical site.

Admission Requirements

Minimum requirements for consideration for admissions to the Masters of Dental Hygiene degree program are:

- A. An earned B.S. degree in Dental Hygiene or related field. Since the A.S. degree is entry level for some dental hygienists, an A.S. degree is required with a B.S. degree in a related field. (Official transcripts from each college attended must accompany application.)
- B. A minimum GPA of 3.0 on a 4.0 GPA scale in dental hygiene coursework.*
- C. Completion of the UTHSC online application for the MDH program. Included in the admissions packet is an essay. Applicants should include in the essay: goals for graduate study, past clinical experience including number of years as a dental hygienist, past experience including number of years as a dental hygiene faculty member, brief description of professional and community involvement, and experience with distance learning.
- D. Three (3) letters of recommendation must be completed by previous faculty members and/or employers.
- E. Official transcripts from each institution attended or attending.
- F. Each dental hygiene applicant's license must be in good standing in each state where licensed.
- G. Evidence of current malpractice insurance owned by the applicant. Malpractice insurance may be purchased through the University.
- H. Personal or telephone interviews with the graduate admissions committee may be required. In addition a second essay is required. It is recommended that applicants state name of institution where dental hygiene degree was earned, other institutions attended and major, number of years of dental hygiene practice, type of practice, dental hygiene teaching experience, online learning experience, and goals for graduate study.
- I. A minimum of two years of dental hygiene practice is suggested.
- J. Foreign applicants whose native language is not English must submit results of TOEFL, with a minimum score of 550, 213 on the computerized version.
- K. Students may transfer no more than three (3) graduate-level credit hours from another institution. Courses submitted for transfer must be approved by the MDH Admissions Committee,
- L. Meet technical standards for the college and department.
- M. Clear criminal background check.

**Applicants who do not meet the 3.0 minimum GPA must provide evidence to the admissions committee that demonstrates the likelihood of academic success.*

Applications are accepted online at <http://www.uthsc.edu/admissions/cahs.php>

Notification of Acceptance

Graduate applicants will be notified by the Dean of the College of Allied Health Sciences.

Curriculum for Master of Dental Hygiene Degree

| Core Course | Course Title | Credit Hours |
|-------------|---|--------------|
| MDH 600 | Methods and Strategies of Dental Hygiene Teaching | 3 |
| MDH 601 | Theories of Dental Hygiene Clinical Teaching and Evaluation | 3 |
| MDH 602 | Introduction to Research for the Health Professional | 3 |
| MDH 603 | Community Oral Health Promotion | 3 |
| MDH 606 | Introduction to Statistics in DH Education | 3 |
| MDH 700 | DH Education: Admin, Planning & Organization | 3 |
| MDH 701 | Student Services in Dental Hygiene Education | 3 |
| MDH 702 | Internship in Dental Hygiene Education | 3 |
| MDH 705 | Elective Study in Dental Hygiene Education | 3 |
| MDH 706 | Capstone Project in Dental Hygiene Education | 3 |
| MDH 707 | Online Teaching Strategies | 3 |

Total hours required for degree -- 33

Communication

Email is the primary mode of communication for instructor and student interactions. Course information is provided to students via the campus learning management system, BlackBoard, which includes the course syllabus, links to campus resources, reading and supplemental class materials, recorded lectures, testing and assessment, grades and other classroom materials. Faculty may also interact with students via web-conferencing using Adobe Connect, video chat and telephone conferences.

Course work in the MDH program is conducted online except for the one week face-to-face orientation and one week between year one and year two enrollment. Directed practice experiences are scheduled to be in proximity to the student's residence. Email, web-conferences, and phone conference are the primary modes of communication for instructor and student interaction. Email is conducted using the official UTHSC email system. Courses that are taught online or via a hybrid format provide course instruction through a Blackboard Platform managed by UTHSC. To ensure online privacy, students must use their unique login and id to access their email accounts and the BlackBoard site. Student's personal information is not shared with anyone outside of the college unless specified by the student in accordance with all FERPA guidelines. Students can only access courses that they are enrolled. Within the Blackboard course site, students access the course syllabus, link to campus resources, access course assignments including readings, recorded lectures, videostreaming, tests and assessments, grades and other classroom materials. Students participate in discussion boards and chats through Blackboard. Students submit assignments and email faculty through the Blackboard system. Additional modes of communication among faculty and students include Adobe Connect and video chat.

Attendance Requirement

MDH students are expected to participate in all online experiences, clinics, and other assignments. Students are required to check UTHSC email at least daily. For absences, prior arrangements must be made with the specific instructor or course director with approval of the program director.

Grading Scale

The following grading scale for MDH graduate students is as follows:

90-100 = A
80-89 = B
70-79 = C
Below 70 = F

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Graduate students must maintain a GPA of 3.0 or higher each credit. Dismissal from the program may result if the GPA falls below 3.0.

Requirements for Graduation

The following requirements must be satisfied to earn the degree of Master of Dental Hygiene.

1. Satisfactory completion of the 33 credit hours.
2. Students must complete all courses and maintain a minimum GPA of 3.0.
3. Students must file an application for graduation for either December or May graduation.
4. Students must complete all courses within five (5) years of enrolling in the program.
5. Satisfactory completion of the Capstone Project.
6. Students' dental hygiene license should remain in good standing throughout the program and must be in good standing at the time of graduation.
7. Students must discharge all financial obligations to the university and remove all deficiencies documented by the Registrar to the University and remove all deficiencies documented by the Registrar.

Attendance at graduation is required. Those unable to attend commencement must obtain permission to receive the degree *in absentia* by filing a written request with the Dean of the College.

Awards

The Outstanding MDH Graduate Student Award

The Outstanding MDH Award is presented to the student who has exhibited remarkable dedication to the future of DH education as demonstrated by academic achievement and professional excellence throughout the program. The student must achieve a GPA of 3.5 or higher on a 4.0 scale. The recipient of the award will be chosen by the MDH faculty. The award will not necessarily be presented each year.

Sigma Phi Alpha Dental Hygiene Honor Society

The national dental hygiene honor society was founded in 1958. Eligibility for membership is based on scholarship, potential service to the profession, character, and leadership. Eligible students must rank in the top 25% of their class, however only 10% may be chosen annually.

COURSE DESCRIPTIONS

- DH 410** **Clinic Theory 1** *Credit: 3 (45-0-0)* Introduction to dental hygiene including the history and growth of the profession and current roles of dental hygienists in various practice settings. Introduction to patient care including current practices for infection control; recording of medical and dental histories; techniques for recording and monitoring vital signs; guidelines for inspecting oral tissues and charting observations; and basic theory, principles and procedures of oral prophylaxis. Also includes introduction to dental/dental hygiene policies and procedures, and professional conduct. (Serves as pre-requisite to DH 426). *Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Eleta Reed Morgan (Fall).*
- DH 411** **Head and Neck Anatomy** *Credit: 3 (45-0-0)* Morphology of the head and neck with emphasis on structures pertinent to dentistry. Includes cranium and soft tissue relations; origin, insertion, action, and innervation of muscles of mastication and facial expression; brain and cranial nerves; and vascular supply to the head and neck. Anatomical basis for routes of spread of dental infection and anatomical basis for dental anesthesia also discussed. Lectures and demonstrations. *Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Dr. Reese Scroggs (Fall).*
- DH 413** **Dental Embryology, Histology & Anatomy** *Credit: 4 (60-0-0)* Overview of prenatal development, development of the face and neck, orofacial structures, tooth development and eruption. Histological and microscopic anatomy of tissues and organ systems with emphasis on oral soft tissues, enamel, dentin, pulp, tissues of periodontium. Study of the anatomy of the human dentition and supporting structures including anatomical terminology. Emphasis on anatomic form of teeth in gingival tissue, basic occlusion, morphological anomalies, and relationship of teeth and gingiva. *Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Dr. Bobby Collins (Fall).*
- DH 418** **Clinic Theory 1 Lab** *Credit: 2 (0-90-0)* Laboratory and clinical exercises in the techniques of detection and removal of hard and soft deposits from tooth surfaces. Also includes introduction to dental/dental hygiene clinic policies and procedures, and professional conduct. (Serves as pre-requisite to DH 421). *Mode of delivery: Lab. Offered: Fall. Instructor of Record: Eleta Reed Morgan (Fall).*
- DH 421** **Clinic Practice 2** *Credit: 4 (0-0-240)* Continuation of DH 418, Clinic Theory I Lab. This course is the first clinical course in a series of courses in which students gain clinical proficiency by providing dental hygiene services to patients. Experiences include rotations for clinical experiences in specialty clinics within the College of Dentistry, community and government dental clinics, and school-based programs for at-risk populations. *Mode of delivery: Clinical. Pre-Requisites: DH 418, Clinic Theory I Lab Offered: Spring. Instructor of Record: Eleta Reed-Morgan (Spring).*
- DH 423** **Transitional Clinic Practice** *Credit: 2 (0-0-120)* Second clinical course in a series of courses in which students gain clinical proficiency by providing dental hygiene services to patients. Experiences include rotations for clinical experiences in specialty clinics within the College of Dentistry, community and government dental clinics, and school-based programs for at-risk populations. *Mode of delivery: Clinical. Offered: Summer.*
- DH 424** **Oral Radiology** *Credit: 3 (30-45-0)* Basic instruction is given in contemporary dental radiology techniques, emphasizing an introduction to intraoral and extraoral techniques; radiation physics, principles of and generation of photons (x-rays); components of x-ray producing equipment; radiation hygiene and safety; introduction to radiation deleterious effects on cell biology; composition, processing and chemistry of x-ray film; intraoral and extraoral anatomical bony landmarks; recognition of operator error/ processing artifacts; and introduction to differential diagnosis in oral radiology. Special emphasis is placed on determining radiographic signs of caries, bone loss associated with periodontal and systemic diseases, periapical pathology and radiographically notable dental materials for clinical interpretation. *Mode of delivery: Didactic and lab. Offered: Fall. Instructor of Record: Dr. John Covington (Fall).*

- DH 425 Oral Disease Prevention & Patient Education** *Credit: 2 (30-0-0)* Study of oral hygiene, preventive products, and dental health teaching methods. Emphasis on cultural implications for individualized patient instruction in prevention of dental disease using behavior modification. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Cassandra Holder-Ballard (*Spring*).
- DH 426 Clinical Theory 2** *Credit: 2 (30-0-0)* Continuation of DH 410, Clinical Theory 1, expanding on basic theory, principles and procedures of oral prophylaxis. Lectures to supplement clinical learning experiences through integration and application of basic, dental, and dental hygiene science to problems encountered while providing dental hygiene services. (Satisfactory completion of each course is required for progression to the next in the series.). *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Eleta Reed-Morgan (*Spring*).
- DH 427 General and Oral Pathology** *Credit: 2 (30-0-0)* This course deals with the study of human diseases. The first part of the course addresses the basic mechanisms that cause disease (general pathology). The second part of the course reviews the effects of those basic disease mechanisms on various organ systems (systemic pathology). The third part of the course presents, in detail, the diseases that affect the oral cavity and adjacent tissues and structures (oral pathology). Special emphasis will be given to those pathologic mechanisms, systemic conditions, and oral diseases that are common in the population or of particular significance to oral health care providers and patients. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Shokoufeh Farahani (*Spring*).
- DH 430 Clinic Practice 3** *Credit: 4 (0-0-240)* Third clinical course in a series of courses in which students gain clinical proficiency by providing dental hygiene services to patients. Experiences include rotations for clinical experiences in specialty clinics within the College of Dentistry, community, government dental clinics, and school-based programs for at-risk populations. *Mode of delivery:* Clinical. *Offered:* Fall. *Instructor of Record:* Eleta Reed Morgan (*Fall*).
- DH 431 Clinical Theory 3** *Credit: 2 (30-0-0)* Continuation of DH 426, Clinical Theory 2, expanding on basic theory, principles and procedures of oral prophylaxis. Lectures to supplement clinical learning experiences through integration and application of basic, dental, and dental hygiene science to problems encountered while providing dental hygiene services. (Satisfactory completion of each course is required for progression to the next in the series.). *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Susan Daniel (*Fall*).
- DH 434 Dental Pharmacology** *Credit: 2 (30-0-0)* Study of basic pharmacologic principles, drugs used in dentistry, and misuse of therapeutic agents. Includes discussion of commonly prescribed drugs, their uses, side effects, and dental treatment implications of such drugs. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Marilyn Lee (*Fall*).
- DH 437 Periodontology** *Credit: 3 (45-0-0)* Study of the historical and scientific background of dental hygiene periodontal practice, pathogenesis of periodontal diseases, rationale for therapy, critical analysis of patient assessments, current theories of treatment, and specific rationales for techniques. (Satisfactory completion of this course is required for progression in clinical courses.). *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Ayda Khuri (*Spring*).
- DH 438 Community Dental Health Theory** *Credit: 2 (30-0-0)* This course provides a study of the principles and methods used in assessing, planning, implementing, and evaluating community dental health programs. Topics include, epidemiology, research methodology, biostatistics, community based prevention programs for prevention of caries, oral disease indexes, dental health education, and program planning. Students critically evaluate scientific literature, dental care delivery and mechanisms for financing dental care. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Susan Daniel (*Fall*).

- DH 448 Dental Materials** *Credit: 3 (15-45-0)* This course addresses the chemistry and physical properties of various materials used in dental practice. Includes Lecture and Lab exercises involving the application and manipulation of the more commonly used dental materials. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Dr. Susan Daniel (Spring).
- DH 525 Clinic Theory 4** *Credit: 2 (30-0-0)* Continuation of basic theory, principles and procedures of oral prophylaxis. Lectures to supplement clinical learning experiences through integration and application of basic, dental, and dental hygiene science to problems encountered while providing dental hygiene services. (Satisfactory completion of each course is required for progression to the next in the series.). *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Eleta Reed-Morgan (Spring).
- DH 532 Special Patient Care** *Credit: 3 (45-0-0)* The goal of this course is to lead the student to discover information concerning effects of systemic diseases, conditions, and aging and how these situations will require special treatment modifications for dental care. This course should also provide the student with the knowledge and skills to meet the oral health needs of special patients listed in the course outline. Prevention and management of medical emergencies that may arise in the dental environment is also included in this course. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Nancy Williams (Fall).
- DH 536 Anxiety and Pain Control** *Credit: 4 (30-90-0)* This is a Didactic reviewing the procedures available for the management of pain and anxiety. Principles of local anesthesia will include anatomy, physiology, pharmacology, armamentarium, technique and complications. Principles of nitrous oxide and oxygen conscious sedation will be covered. A laboratory component will be included to prepare the students for certification in the administration and monitoring of nitrous oxide. Local anesthesia is taught to laboratory and clinical competence. Nitrous oxide analgesia is taught to laboratory competence but not clinical competence. *Mode of delivery:* Didactic Hybrid. *Offered:* Summer.
- DH 538 Community Dental Health Practicum** *Credit: 3 (15-60-0)* This course will build upon the basics of DH 438, Community Dental Health Theory. Students will have the opportunity to develop a community dental health program which requires application of dental public health theories, principles and concepts. Students will be expected to assess, plan, and implement evidence based community dentistry projects. *Mode of delivery:* Lab Hybrid. *Offered:* Spring. *Instructor of Record:* Dr. Susan Daniel (Spring).
- DH 541 Clinic Practice 4** *Credit: 4 (0-0-240)* Final clinical course in a series courses in which students gain clinical proficiency by providing dental hygiene services to patients. Experiences include rotations for clinical experiences in specialty clinics within the College of Dentistry, community, government dental clinics, and school-based programs for at-risk populations. *Mode of delivery:* Clinical. *Offered:* Spring. *Instructor of Record:* Eleta Reed-Morgan (Spring).
- DH 542 Ethics, Jurisprudence & Practice Management** *Credit: 3 (45-0-0)* Experience in problem solving and ethical decision making in dental hygiene based on theories and principles of ethics. Case studies are used for practical application. Study of principles of law as related to dental hygiene and dental practice, including tort and contract law. Includes preparation for the jurisprudence examination administered by the Tennessee State Board of Dental Examiners. A study of dental practice management and treatment planning. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Elaine Stegman (Spring).
- MDH 600 Methods and Strategies of Dental Hygiene Teaching** *Credit: 3* The purpose of this course is to prepare graduates to teach and evaluate Didactics traditionally included in the undergraduate dental hygiene curriculum. Components of this course include: overview of adult educational theory, face-to-face and web-based instructional technology, curriculum design, and teaching strategies and evaluation techniques related to cognitive and affective teaching and learning. This course is a pre-requisite for MDH 702 and MDH 706. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Dr. Cassandra Holder-Ballard (Fall).

- MDH 601 Theories of Dental Hygiene Clinical Teaching and Evaluation** *Credit: 3* The purpose of this course is twofold. First, graduates will be prepared to teach and evaluate fine psychomotor skills both in preclinical technique courses and in dental hygiene clinic. The second purpose is to prepare graduates to serve as clinical coordinators and/or clinical Faculty members. Included in this section is information related to clinic administration as it applies to both clinical Faculty and students. Developing undergraduate students' professional behavior, clinical technique, and patient communication skills during patient treatment will be emphasized. Graduates will gain knowledge related to clinical administration as it relates to establishing clinical requirements, competencies and mock clinical exams and calibration of clinical grading. This course is a pre-requisite for MDH 702 and MDH 706. *Mode of delivery:* Didactic Online. *Offered:* Fall, Spring. *Instructor of Record:* Hope Oliver (Fall).
- MDH 602 Introduction to Research for the Health Professional** *Credit: 3* This course is designed for basic introduction to research methods for dental hygiene educators. It will provide a step-by-step overview of the research process and development of a research paper. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Students must successfully complete MDH 606 *Offered:* Spring. *Instructor of Record:* Dr. Sajeesh Kumar (Spring).
- MDH 603 Community Oral Health Promotion** *Credit: 3* This is a project based course that builds on knowledge and skills acquired in undergraduate preventive and community oral health. *Mode of delivery:* Didactic Online. *Offered:* Fall, Spring. *Instructor of Record:* Dr. Nancy Williams (Fall); Dr. Nancy Williams (Spring).
- MDH 606 Introduction to Statistics in Dental Hygiene Education** *Credit: 3* This course is designed for basic introduction to statistics for dental hygiene educators. It will provide a step-by-step overview of beginning statistics commonly used in DH education. Prerequisite for MDH 602. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Dr. Susan Daniel (Fall).
- MDH 700 Dental Hygiene Education: Administration, Planning, and Organization** *Credit: 3* The study of leadership theories and program administration unique to dental hygiene educational programs, including an understanding of general and specialized accreditation processes, role of state dental licensure boards, human resources, Faculty performance assessment, program financing from public funding and clinical fees, clinic administration and outcomes assessment. *Mode of delivery:* Didactic Online. *Offered:* Spring. *Instructor of Record:* Dr. Susan Crim (Spring).
- MDH 701 Student Services in Dental Hygiene Education** *Credit: 3* An overview course of student services available at the community college or university level such as but not limited to student health, recruiting, admissions, financial aid, and judicial affairs. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Dr. Cynthia Calhoun (Fall).
- MDH 702 Internship in Dental Hygiene Education** *Credit: 3* Each graduate student will provide pre-clinical and/or clinical instruction and evaluation in a dental hygiene program and also will assist a Professor in teaching a Didactic in a dental hygiene program. Each graduate student will work closely with graduate Faculty to identify appropriate Faculty mentors from dental hygiene educational programs in students' home communities so this requirement can be completed at a distance from the Memphis campus. *Mode of delivery:* Didactic and clinical practice Online. *Pre-Requisites:* MDH 600 and MDH 601 *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Susan Crim (Fall); Dr. Nancy Williams (Spring).
- MDH 705 Elective Study in Dental Hygiene Education** *Credit: 3* Experiential course that may be offered face-to-face, hybrid or online format depending on approved elective. The purpose of this elective is to allow students the opportunity to enhance their skills and knowledge in their area of interest. Suggest modules include: Advanced Dental Hygiene Clinic Practice, Dental Hygiene Program Administration, Community Oral Health Planning, Dental Hygiene Research, Instructional Technology Used in Dental Hygiene Education, Continuing Education Administration, etc. *Mode of delivery:* Experiential. *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Nancy Williams (Fall); Dr. Nancy Williams (Spring).

- MDH 706 Capstone Project in Dental Hygiene Education** *Credit: 3* Pass/Fail Each graduate student must successfully complete a Capstone Project and present findings to the graduate Faculty and/or at a regional or national professional meeting. This is a capstone activity in which students enroll during the final term of the program. Sound demonstration of writing, organizational and communication skills associated with the MDH degree is required. Students must select an MDH Faculty advisor as well as an onsite mentor where the student will complete the capstone project and present an overview of the capstone project to the graduate Faculty and/or students at the beginning of the course. Each student's mentor as well as the proposed content must be approved by the graduate Faculty prior to initiation of the project. The graduate student must also defend the completed project. *Mode of delivery:* Independent project. *Pre-Requisites:* MDH 600, 601, 602, 603, 606, 700, 701, 702, 707 and permission from the MDH program director *Offered:* Fall, Spring, Summer. *Instructor of Record:* Dr. Nancy Williams (*Fall*); Dr. Nancy Williams (*Spring*).
- MDH 707 Online Teaching Strategies** *Credit: 3* Student will have an opportunity to learn how to teach using online strategies and study the latest technology used in distance learning. *Mode of delivery:* Didactic Online. *Offered:* Spring. *Instructor of Record:* Dr. Karen Adsit (*Spring*).

HEALTH INFORMATICS AND INFORMATION MANAGEMENT

Rebecca B. Reynolds, EdD, MHA, RHIA, FAHIMA, Chair

Marcia Y. Sharp, EdD, MBA, RHIA, Graduate Program Director

The Department of Health Informatics and Information Management offers an online Master of Health Informatics and Information Management (MHIIM) with two tracks (an entry-level track and a post-graduate track) as well as an online post-baccalaureate certificate in Health Informatics and Information Management. The Department of Health Informatics and Information Management follows the UTHSC Academic Calendar.

HIIM students near the UTHSC Memphis campus can gain access to campus facilities utilizing a UTHSC official student identification badge. All students enrolled in programs within the department have access to all required course materials through the learning management system used by UTHSC (BlackBoard).

Student Status

When students are admitted to the program they must determine whether or not they wish to take classes as a full-time or part-time student. The program director and faculty advisor will assist the student in developing an appropriate program of study for program completion based on this determination.

Students are allowed to transfer up to nine (9) credit hours of credit to apply toward the post-graduate degree. The program director will approve this transfer, per the UTHSC policy, after the student is enrolled at UTHSC. No credits are allowed to be transferred into the entry-level program.

Academic Calendar for HIIM Programs

| Date | Activity | Class |
|--|--|---------------------|
| Monday, April 1, 2013 | Registration for Fall 3 begins | all |
| Monday, August 12, 2013 | Last day to register Fall 3 | all |
| Monday, August 12, 2013 | Tuition and fees due Fall 3 | all |
| Wednesday, August 14 -16, 2013 | Orientation | New students |
| Monday, August 19, 2013 | Fall 3 Classes begin | all |
| <i>Monday, September 2, 2013</i> | <i>Labor Day (Offices closed)</i> | |
| Friday, November 1, 2013 | Spring 2 registration begins | all |
| <i>Thursday, November 28 – Friday, November 29, 2013</i> | <i>Thanksgiving break (offices closed)</i> | |
| Sunday, December 1, 2013 | Last day of classes | all |
| Friday, December 6, 2013 | Last day for final exams | all |
| Monday, December 9, 2013 | Begin Winter Break | all |
| Friday, December 13, 2013 | Graduation | |
| <i>Monday, December 23, 2013-Friday, December 27, 2013</i> | <i>University Holiday (offices closed)</i> | |
| <i>Wednesday, January 1, 2014</i> | <i>University Holiday (offices closed)</i> | |
| <i>Thursday, January 2, 2014</i> | <i>Tuition and Fees Due Spring 2</i> | <i>All</i> |
| <i>Monday, January 6, 2014</i> | <i>Orientation</i> | <i>New students</i> |
| <i>Thursday, January 9, 2014</i> | <i>Spring classes begin</i> | <i>All</i> |
| <i>Monday, January 20, 2014</i> | <i>University Holiday (offices closed)</i> | |
| <i>Monday, March 10 – Friday, March 14, 2014</i> | <i>Spring Break</i> | <i>all</i> |
| <i>Tuesday, April 1, 2014</i> | <i>Summer 1 registration begins</i> | |
| <i>Friday, April 18, 2014</i> | <i>Spring Holiday (offices closed)</i> | |
| <i>Friday, May 2, 2014</i> | <i>Last day of classes</i> | <i>all</i> |
| <i>Friday, May 9, 2014</i> | <i>Last day of final exams</i> | |
| <i>Monday, May 11</i> | <i>Summer break begins</i> | |
| <i>Monday, May 26, 2014</i> | <i>Memorial Day (offices closed)</i> | |
| <i>Friday, May 30, 2014</i> | <i>Graduation</i> | |
| <i>Friday, May 30, 2014</i> | <i>Summer break ends</i> | |
| <i>Monday, June 2, 2014</i> | <i>Summer 1 fees due</i> | |
| <i>Monday, June 2, 2014</i> | <i>Summer 1 classes begin</i> | |
| <i>Friday, July 4, 2014</i> | <i>Independence Day (offices closed)</i> | |
| <i>Friday, August 8, 2014</i> | <i>Summer 1 classes end</i> | |

ENTRY-LEVEL MASTER OF HEALTH INFORMATICS AND INFORMATION MANAGEMENT (MHIIM)

Entry-level Program Objectives

The entry-level curriculum is designed to produce graduates who can combine knowledge of a broad number of disciplines to provide high quality health information services in a variety of health care settings. The program produces graduates who meet the current demands of the health care field and who will assume leadership roles in health informatics and information management. The curriculum emphasizes the full diversity of opportunities to contribute to quality patient care by providing excellent health information services

Program Description

The entry-level curriculum in health informatics and information management includes courses in organization and administration, health information technology and systems, clinical foundations, coding and classification systems, quality management and oversight, law, and health information science. Clinical rotations through selected hospitals and other health care facilities provide practical experience. Students spend a month in a management affiliation. Criterion referenced evaluation is used in each course and students are required to reach the minimum competency level established for the course. Grades are based on written and practical examinations, as well as on performance in directed experience. A student must pass each term's courses with a grade of "B" in each course as well as attain a minimum grade point average of 3.0 each term in order to progress to the subsequent term or to graduate.

Admission Requirements for Entry-level MHIIM

| Prerequisite Course Work | Credit Hours |
|------------------------------------|--------------|
| Human Anatomy and Physiology | 8 |
| Principals of Management | 3 |
| Personnel Administration | 3 |
| English Composition and Literature | 12 |
| Social Science | 6 |
| Statistics | 3 |
| Medical Terminology | 3 |
| Management Information Systems | 3 |
| Systems Analysis and Design | 3 |
| Database Management | 3 |
| Electives | <u>45</u> |
| TOTAL | 92 |

12 hours of prerequisite course work must be completed at the upper-division level and must be completed at an accredited university.

Applications are accepted online at <http://www.uthsc.edu/admissions/cahs.php>

Technical Standards

For admission to the Master of Health Informatics and Information Management (MHIIM) program at the University of Tennessee Health Science Center, students are expected to be able to successfully meet the Technical Standards as outlined below. Students are required to sign the Technical Standards Commitment form indicating their understanding and ability to meet these standards either with or without accommodations. Any questions about these technical standards should be addressed to Dr. Rebecca Reynolds, Chair.

UTHSC receives applications from a diverse body of potential students including those with disabilities. Reasonable accommodations to help students meet these technical standards will be provided where appropriate. Any student wishing accommodations should contact the Student Academic Support Service. Information regarding Disability Support can be found in *The CenterScope*, the UTHSC student handbook.

Students should be able to reasonably perform:

Motor Skills

Candidates for admission must have sufficient motor function to work with a computer including generating input and output in a manner sufficient to meet deadlines and productivity standards.

Communication Skills

Candidates for admission to the MHIIM Program must be able to efficiently, effectively and professionally communicate in English in oral and written form. Candidates must have the ability to participate in discussion in the clinical arena and with colleagues. Candidates must have the ability to understand and complete reading assignments and to search and evaluate the literature. Candidates must be able to complete written assignments and maintain written records.

General Abilities

Candidates must be able to acquire, synthesize and apply information developed through course instruction, clinical experiences, independent learning, and consultation. Candidates must possess organizational skills and be able to solve one or more problems within specific time frames. Candidates must have the ability to perform duties and assignments in a timely fashion while under stress and in a variety of settings.

Professional Behavior and Conduct

Candidates for admission to the MHIIM Program must demonstrate the ability to follow instructions/procedures with accuracy and precision. Candidates must possess the ability to maintain intellectual and emotional stability and maturity under stress, while also maintaining appropriate performance standards. Candidates must have the ability to manage time, organize workload and meet deadlines. Candidates must be able to learn and exhibit professional attributes. Candidates must adhere to safety guidelines for self and others and be able to comply with standards and regulations required by external agencies. Candidates must have the ability to function as part of a team and to delegate responsibilities appropriately.

One of the primary roles of anyone on a healthcare team, including those in Health Informatics and Information Management, is to ensure the basic safety and welfare of patients at all times, as well as for a safe working environment. If this cannot be done, the student is determined to be unable to meet the basic Technical Standards of the program and the College.

In the event a student cannot fulfill these Technical Standards with or without reasonable accommodations at any time in their program, the student will be ineligible for admission or continued enrollment in the program.

Communication

Email is the primary mode of communication for instructor and student interactions. Course information is provided to students via the campus learning management system, BlackBoard, which includes the course syllabus, links to campus resources, reading and supplemental class materials, recorded lectures, testing and assessment, grades and other classroom materials. Faculty may also interact with students via web-conferencing using Adobe Connect, video chat and telephone conferences.

Course work in the MHIM program, is conducted online. Directed practice experiences are scheduled to be in proximity to the student's residence. Email, web-conferences, and phone conference are the primary modes of communication for instructor and student interaction. Email is conducted using the official UTHSC email system. Courses that are taught online or via a hybrid format provide course instruction through a Blackboard Platform managed by UTHSC. To ensure online privacy, students must use their unique login and id to access their email accounts and the BlackBoard site. Student's personal information is not shared with anyone outside of the college unless specified by the student in accordance with all FERPA guidelines. Students can only access courses that they are enrolled in. Within the Blackboard course site, students access the course syllabus, link to campus resources, access course assignments including readings, recorded lectures, videostreaming, tests and assessments, grades and other classroom materials. Students participate in discussion boards and chats through Blackboard. Students submit assignments and email faculty through the Blackboard system. Additional modes of communication among faculty and students include Adobe Connect and video chat.

Attendance

Students are expected to respond to instructor-initiated requests as well as meet deadlines outlined in each course syllabus. Students are expected to complete assignments by due dates and to be punctual for all directed experience and other clinical activities.

Grading

The entry-level health informatics and information management program has a competency-based curriculum in which competencies for the entry level health information manager developed by the American Health Information Management Association are used. Graduates of the program are expected to be able to perform the functions as articulated in the competencies. Criterion referenced evaluation is used in each course and students are required to reach the minimum competency level established for the course. Grades are based on written and practical examinations, as well as on performance in directed experience. A student must pass each term's courses with a grade of "B" in each course in order to progress to the subsequent term or to graduate.

Grading Scale:

| | |
|---|----------|
| A | 90-100 |
| B | 80-89 |
| C | 70-79 |
| D | 60-69 |
| F | below 60 |

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Progress and Promotion for Entry-level Students

An entry-level student must pass each term's courses with a grade of "B" or better in each course in order to progress to the subsequent term or to graduate.

Accreditation of the Entry-level Program

The UTHSC entry-level program in Health Informatics and Information Management is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM); 233 N. Michigan Ave., Suite 2150; Chicago, IL 60601-5519; (312) 233-1100; www.cahiim.org.

Entry-level Curriculum Summary - MHIM

The program length is determined by the number of credit hours students register for each term. The curriculum is offered so that a full-time student may complete the program in six terms. Students have seven years to complete the degree requirements. Courses are offered at least once per calendar year in the term indicated within each of the following course descriptions. All courses in the program are delivered in an online format. The Directed Practice courses require students to complete clinical rotations.

| Course Work | Credit Hours |
|--|-----------------|
| HIM 511 Health Information Science I | 3 |
| HIM 513 Organization and Administration I | 3 |
| HIM 550 Clinical Foundations of Health Information Management | 3 |
| HIM 541 Health Information Technology and Systems I | 3 |
| HIM 515 Directed Experience I | 2 |
| HIM 521 Health Information Science II | 3 |
| HIM 523 Organization and Administration II | 3 |
| HIM 525 Directed Experience II | 2 |
| HIM 537 Management Affiliation | 3 |
| HIM 551 Reimbursement Methodologies in Healthcare | 3 |
| MHIM 600 Information Technology and Systems | 3 |
| MHIM 601 Quality Management in Health Services | 2 |
| MHIM 602 Legal Issues in Health Information Technology & Systems | 3 |
| MHIM 603 Leadership in Health Information Technology & Systems | 3 |
| MHIM 604 Financial Management for Health Professionals | 3 |
| MHIM 605 Healthcare Information Systems | 3 |
| MHIM 606 Healthcare Vocabularies and Clinical Terminologies | 2 |
| MHIM 607 Statistics and Decision Making | 3 |
| MHIM 608 Knowledge Management | 3 |
| MHIM 609 Concepts of Research Methodology | 3 |
| MHIM 610 Issues in Health Information Technology Seminar | 2 |
| MHIM 613 Applied Research Project | 3 |
| TOTAL | 61 hours |

Graduation Requirements – Entry-level MHIM

The following requirements must be satisfied to earn the degree of Master of Health Informatics and Information Management:

1. Satisfactory completion of 61 credit hours of graduate level coursework.
2. Completion of coursework with a 3.0 average. A grade of “B” or above in each course is required.
3. Meeting technical standards for the degree.
4. Discharge of all financial obligations to the University and removal of all deficiencies documented by the Registrar.
5. Attendance at graduation is required. Those unable to attend commencement must obtain permission to receive the degree *in absentia* by filing a written request with the Dean of the College.

Student Professional Organization Membership

Health Informatics and Information Management students are eligible for membership in the American Health Information Management Association (AHIMA), and are encouraged to join. Dues include a subscription to the *Journal of AHIMA*, access to the AHIMA Body of Knowledge and student membership in the Tennessee Health Information Management Association and the Memphis Health Information Management Association.

Registration Examination

Following successful completion of the entry-level Master of Health Informatics and Information Management program, HIIM students are eligible to apply to write the national registration examination.

POST-GRADUATE MASTER OF HEALTH INFORMATICS AND INFORMATION MANAGEMENT (MHIIM)

Marcia Y. Sharp, EdD, RHIA, Program Director

Program Objectives

The goal of the post-graduate MHIIM is to provide the competencies for health care professionals to manage information in an increasingly complex electronic health environment.

Curriculum Description

The post-graduate master's degree curriculum at UTHSC prepares graduates for leadership roles in a variety of employment settings. It is designed for working healthcare professionals to expand skills sets in health informatics and information management. These roles are associated with enterprise-wide information systems strategic planning, management and health data administration. Individuals may attain a variety of positions in the management, analysis, and dissemination of information. These positions may be in institutions focused on the delivery of healthcare, enterprises that engage in development of health information systems, or other private or governmental agencies that engage in the use, management, or analysis of patient related information for public health surveillance.

Admission Requirements for Post-Graduate MHIIM

1. Baccalaureate degree in a health-related discipline;
2. Minimum grade point average of 3.0;
3. Three letters of recommendation from previous college instructors or immediate supervisors;
4. Foreign applicants whose native language is not English must submit results of TOEFL, with minimal score of 550, 213 on the computerized version Official transcripts;
5. Personal interview with the admissions committee;
6. Ability to meet published technical standards of the College of Allied Health Sciences and the Department of Health Informatics and Information Management;
7. A completed application form including an essay describing the applicant's career goals;
8. A non-refundable application fee must accompany the application.

Applications are accepted online at <http://www.uthsc.edu/admissions/cahs.php>

Technical Standards

For admission to the Master of Health Informatics and Information Management (MHIIM) program at the University of Tennessee Health Science Center, students are expected to be able to successfully meet the Technical Standards as outlined below. Students are required to sign the Technical Standards Commitment form indicating their understanding and ability to meet these standards either with or without accommodations. Any questions about these technical standards should be addressed to Dr. Rebecca Reynolds, Chair.

UTHSC receives applications from a diverse body of potential students including those with disabilities. Reasonable accommodations to help students meet these technical standards will be provided where appropriate. Any student wishing accommodations should contact the Student Academic Support Service. Information regarding Disability Support can be found in *The CenterScope*, the UTHSC student handbook.

Students should be able to reasonably perform:

Motor Skills

Candidates for admission must have sufficient motor function to work with a computer including generating input and output in a manner sufficient to meet deadlines and productivity standards.

Communication Skills

Candidates for admission to the MHIIM Program must be able to efficiently, effectively and professionally communicate in English in oral and written form. Candidates must have the ability to participate in discussion in the clinical arena and with colleagues. Candidates must have the ability to understand and complete reading assignments and to search and evaluate the literature. Candidates must be able to complete written assignments and maintain written records.

General Abilities

Candidates must be able to acquire, synthesize and apply information developed through course instruction, clinical experiences, independent learning, and consultation. Candidates must possess organizational skills and be able to solve one or more problems within specific time frames. Candidates must have the ability to perform duties and assignments in a timely fashion while under stress and in a variety of settings.

Professional Behavior and Conduct

Candidates for admission to the MHIIM Program must demonstrate the ability to follow instructions/procedures with accuracy and precision. Candidates must possess the ability to maintain intellectual and emotional stability and maturity under stress, while also maintaining appropriate performance standards. Candidates must have the ability to manage time, organize workload and meet deadlines. Candidates must be able to learn and exhibit professional attributes. Candidates must adhere to safety guidelines for self and others and be able to comply with standards and regulations required by external agencies. Candidates must have the ability to function as part of a team and to delegate responsibilities appropriately.

One of the primary roles of anyone on a healthcare team, including those in Health Informatics and Information Management, is to ensure the basic safety and welfare of patients at all times, as well as for a safe working environment. If this cannot be done, the student is determined to be unable to meet the basic Technical Standards of the program and the College.

In the event a student cannot fulfill these Technical Standards with or without reasonable accommodations at any time in their program, the student will be ineligible for admission or continued enrollment in the program.

Communication

Email is the primary mode of communication for instructor and student interactions. Course information is provided to students via the campus learning management system, BlackBoard, which includes the course syllabus, links to campus resources, reading and supplemental class materials, recorded lectures, testing and assessment, grades and other classroom materials. Faculty may also interact with students via web-conferencing using Adobe Connect, video chat and telephone conferences.

Course work in the MHIIM program, is conducted online. Directed practice experiences are scheduled to be in proximity to the student's residence. Email, web-conferences, and phone conference are the primary modes of communication for instructor and student interaction. Email is conducted using the official UTHSC email system. Courses that are taught online or via a hybrid format provide course instruction through a Blackboard Platform managed by UTHSC. To ensure online privacy, students must use their unique login and id to access their email accounts and the BlackBoard site. Student's personal information is not shared with anyone outside of the college unless specified by the student in accordance with all FERPA guidelines. Students can only access courses that they are enrolled in. Within the Blackboard course site, students access the course syllabus, link to campus resources, access course assignments including readings, recorded lectures, videostreaming, tests and assessments, grades and other classroom materials. Students participate in discussion boards and chats through Blackboard. Students submit assignments and email faculty through the Blackboard system. Additional modes of communication among faculty and students include Adobe Connect and video chat.

Grading

The entry-level health informatics and information management program has a competency-based curriculum in which competencies for the entry level health information manager developed by the American Health Information Management Association are used. Graduates of the program are expected to be able to perform the functions as articulated in the competencies. Criterion referenced evaluation is used in each course and students are required to reach the minimum competency level established for the course. Grades are based on written and practical examinations, as well as on performance in directed experience. A student must pass each term's courses with a grade of "B" in each course in order to progress to the subsequent term or to graduate.

Grading Scale:

| | |
|---|----------|
| A | 90-100 |
| B | 80-89 |
| C | 70-79 |
| D | 60-69 |
| F | below 60 |

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations.

Curriculum Summary for Post-Graduate MHIIM

The program length is determined by the number of credit hours students register for each term. The curriculum is offered so that a full-time student may complete the program in six terms. Students have five years to complete the degree requirements.

| Course Work | Credit Hours |
|--|--------------|
| MHIM 600 Information Technology & Systems | 3 |
| MHIM 601 Quality Management in Health Services | 2 |
| MHIM 602 Legal Issues in Health Information Technology & Systems | 3 |
| MHIM 603 Leadership in Health Information Technology & Systems | 3 |
| MHIM 604 Financial Management for Health Professionals | 3 |
| MHIM 605 Healthcare Information Systems | 3 |
| MHIM 606 Healthcare Vocabularies and Clinical Terminologies | 2 |
| MHIM 607 Statistics and Decision Making | 3 |
| MHIM 608 Knowledge Management | 3 |
| MHIM 609 Concepts of Research Methodology | 3 |
| MHIM 610 Issues in Health Information Technology Seminar | 2 |
| MHIM 613 Applied Research Project | 3 |
| Total hours required | 33 |

Graduation Requirements - Post-Graduate MHIIM

The following requirements must be satisfied to earn the degree of Master of Health Informatics and Information Management:

1. Satisfactory completion of 33 credit hours of graduate level coursework.
2. Completion of coursework with a 3.0 average. A grade of “B” or above in each course is required.
3. Meeting technical standards for the degree.
4. Discharge of all financial obligations to the University and removal of all deficiencies documented by the Registrar.
5. Attendance at graduation is required. Those unable to attend commencement must obtain permission to receive the degree *in absentia* by filing a written request with the Dean of the College.

Awards

Tennessee Health Information Management Association Outstanding Student Award: This award is presented to a graduating entry-level HIIM student for outstanding academic and clinical ability. The recipient is chosen by health informatics and information management faculty.

Mary “Mamel” McCain Achievement Award: This award is presented to a graduating HIIM student who demonstrates scholarship, character and dedication to the highest professional and ethical standards. The recipient is chosen by the health informatics and information management faculty. This award is not necessarily given each year.

Student Professional Organization Membership

Health Informatics and Information Management students are eligible for membership in the American Health Information Management Association (AHIMA), and are encouraged to join. Dues include a subscription to the *Journal of AHIMA*, access to the AHIMA Body of Knowledge and student membership in the Tennessee Health Information Management Association and the Memphis Health Information Management Association.

CERTIFICATE IN HEALTH INFORMATICS AND INFORMATION MANAGEMENT

Program Objectives

The goal of the online Certificate in Health Informatics and Information Management is to provide the basic skills needed to practice in an electronic healthcare environment for the student who does not wish to complete the masters. The certificate curriculum will allow the healthcare practitioner to obtain the basic skills needed to practice in an electronic environment.

Admission Requirements

1. Baccalaureate degree in a health-related discipline
2. Three letters of recommendation from previous college instructors or immediate supervisors
3. Foreign applicants whose native language is not English must submit results of TOEFL, with minimal score of 550; 213 on the computerized version.
4. Personal interview with the admissions committee
5. Ability to meet published technical standards of the College of Allied Health Sciences and the Department of Health Informatics and Information Management
6. A completed application form including an essay describing the applicant's career goals. A non-refundable application fee must accompany the application.

Technical Standards

For admission to the Master of Health Informatics and Information Management (MHIIM) program at the University of Tennessee Health Science Center, students are expected to be able to successfully meet the Technical Standards as outlined below. Students are required to sign the Technical Standards Commitment form indicating their understanding and ability to meet these standards either with or without accommodations. Any questions about these technical standards should be addressed to Dr. Rebecca Reynolds, Chair.

UTHSC receives applications from a diverse body of potential students including those with disabilities. Reasonable accommodations to help students meet these technical standards will be provided where appropriate. Any student wishing accommodations should contact the Student Academic Support Service. Information regarding Disability Support can be found in *The CenterScope*, the UTHSC student handbook.

Students should be able to reasonably perform:

Motor Skills

Candidates for admission must have sufficient motor function to work with a computer including generating input and output in a manner sufficient to meet deadlines and productivity standards.

Communication Skills

Candidates for admission to the MHIIM Program must be able to efficiently, effectively and professionally communicate in English in oral and written form. Candidates must have the ability to participate in discussion in the clinical arena and with colleagues. Candidates must have the ability to understand and complete reading assignments and to search and evaluate the literature. Candidates must be able to complete written assignments and maintain written records.

General Abilities

Candidates must be able to acquire, synthesize and apply information developed through course instruction, clinical experiences, independent learning, and consultation. Candidates must possess organizational skills and be able to solve one or more problems within specific time frames. Candidates must have the ability to perform duties and assignments in a timely fashion while under stress and in a variety of settings.

Professional Behavior and Conduct

Candidates for admission to the MHIM Program must demonstrate the ability to follow instructions/procedures with accuracy and precision. Candidates must possess the ability to maintain intellectual and emotional stability and maturity under stress, while also maintaining appropriate performance standards. Candidates must have the ability to manage time, organize workload and meet deadlines. Candidates must be able to learn and exhibit professional attributes. Candidates must adhere to safety guidelines for self and others and be able to comply with standards and regulations required by external agencies. Candidates must have the ability to function as part of a team and to delegate responsibilities appropriately.

One of the primary roles of anyone on a healthcare team, including those in Health Informatics and Information Management, is to ensure the basic safety and welfare of patients at all times, as well as for a safe working environment. If this cannot be done, the student is determined to be unable to meet the basic Technical Standards of the program and the College.

In the event a student cannot fulfill these Technical Standards with or without reasonable accommodations at any time in their program, the student will be ineligible for admission or continued enrollment in the program.

Certificate in HIM Curriculum Summary

| Course Work | Credit Hours |
|---|--------------|
| MHIM 600 Information Technology and Systems | 3 |
| MHIM 605 Healthcare Information Systems | 3 |
| MHIM Elective (with approval of the program director) | 3 |
| Total hours required | 9 |

Completion Requirements

The following requirements must be satisfied to earn the certificate in Master of Health Informatics and Information Management:

1. Satisfactory completion of 9 credit hours of graduate level coursework.
2. Completion of coursework with a 3.0 average. A grade of "B" or above in each course is required.
3. Meeting technical standards for the degree.
4. Discharge of all financial obligations to the University and removal of all deficiencies documented by the Registrar.

COURSE DESCRIPTIONS

- HIM 511 Health Information Science I** *Credit: 3* Introduction to the field of health information management, including history of patient records, and functions of a health information/medical record department. In-depth study of components, development and use of the record and flow of patient information through the facility; design of forms and computer views; Survey of related systems for other health facilities included. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Elizabeth Bowman (Fall).
- HIM 513 Organization and Administration I** *Credit: 3* Application of principles of organization, administration, supervision, and human relations to the health information/medical record department. Includes utilization of financial and physical resources, financial management of health care facilities, development of systems, procedures, services, and equipment; controlling quality of departmental functions, and professional ethics. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Dr. Marcia Sharp (Fall).
- HIM 515 Directed Experience I** *Credit: 2* Clinical rotation and simulation course. Directed practical experience in information management procedures, management of personnel, and interdepartmental relationships in health care facilities. *Mode of delivery:* Clinical rotation. *Pre-Requisites:* Prerequisite or co-requisite courses: HIM 511, Health Information Science and Laboratory I, and HIM 513, Organization and Administration. *Offered:* Offered every term. *Instructor of Record:* Dr. Rebecca Reynolds (Fall); Dr. Rebecca Reynolds (Spring).
- HIM 521 Health Information Science II** *Credit: 3* Principles of coding and classification with in-depth coverage of the International Classification of Diseases, Clinical Modification, 10th Edition (ICD-10-CM/PCS) and Current Procedural Terminology/Healthcare Common Procedure Coding System (CPT/HCPCS). Coverage is also included on encoders, ethical coding, and managing the coding function. *Mode of delivery:* Didactic Online. *Pre-Requisites:* HIM 511, Health Information Science I, and HIM 550, Clinical Foundations *Offered:* Spring. *Instructor of Record:* Elizabeth Bowman (Spring).
- HIM 523 Organization and Administration II** *Credit: 3* Includes an in-depth study of quality and performance improvement methodologies both in clinical and administrative settings. Includes use of clinical information in quality, utilization management, case management, risk management, and peer review activities. *Mode of delivery:* Didactic Online. *Pre-Requisites:* HIM 511, Health Information Science I *Offered:* Spring. *Instructor of Record:* Stacy Dorris (Spring).
- HIM 525 Directed Experience II** *Credit: 2* Clinical rotation and simulation course. Directed practical experience in information management procedures, management of personnel, and interdepartmental relationships in health care facilities. *Mode of delivery:* Clinical rotation. *Pre-Requisites:* HIM 515, Direct Experience I and HIM 521 Health Information Science II *Offered:* Offered every term. *Instructor of Record:* Dr. Rebecca Reynolds (Fall); Dr. Rebecca Reynolds (Spring).
- HIM 535 Directed Experience III** *Credit: 2* Directed practice experience in information management procedures, management of personnel, and interdepartmental relationships in health care facilities. Prerequisite courses include HIM 521, HIM 523, HIM 511, HIM 515 and HIM 525. *Mode of delivery:* Experiential. *Offered:* As Needed. *Instructor of Record:* Dr. Rebecca Reynolds (Fall).
- HIM 537 Management Affiliation** *Credit: 3* On-site management assignment as an intern in a healthcare facility. Student will gain experience in activities and responsibilities of department directors and other HIM roles. *Mode of delivery:* Clinical practice. *Pre-Requisites:* All of the required HIM 500 level courses. *Co-Requisites:* All of the required HIM 500 level courses. *Offered:* Offered every term. *Instructor of Record:* Dr. Rebecca Reynolds (Fall); Dr. Rebecca Reynolds (Spring).

- HIM 541 Health Information Technology and Systems I** *Credit: 3* A review of information systems, the evolution and implementation of the electronic health record, including the necessary supporting information and technology infrastructure; and the application of new techniques to the handling of information in patient care situations. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Elizabeth Bowman (Fall).
- HIM 550 Clinical Foundations of Health Information Management** *Credit: 3* Study of pathophysiology and pharmacology as utilized in health information management practice. Covers disease processes of all body systems. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Elizabeth Bowman (Fall).
- HIM 551 Reimbursement Methodologies in Healthcare** *Credit: 3* This course provides coverage of major reimbursement systems in use in healthcare including those for hospitals, long-term care facilities, ambulatory care facilities and home health. Includes compliance, chargemaster, revenue cycle management, case mix management and the processes necessary to provide quality data for use in healthcare reimbursement. *Mode of delivery:* Didactic Online. *Pre-Requisites:* HIM 511, Health Information Science I, and HIM 521, Health Information Science II *Offered:* Fall. *Instructor of Record:* Elizabeth Bowman (Fall).
- HIM 552 Research and Statistics** *Credit: 3* Introduction to principal research techniques and procedures, literature resources, information retrieval and clinical/biomedical research support. Includes statistical techniques and use of clinical information in quality, risk management, and peer review activities. Includes data quality and integrity, secondary data sources and IRB. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Elizabeth Bowman (Fall).
- MHIM 600 Information Technology and Systems** *Credit: 3* Broad coverage of technology concepts underlying modern computing and information management as well as survey of the field of health informatics to provide students with the foundation for the program of studies. Topics include overview of concepts in health informatics, information technology infrastructure, information systems management in healthcare, management IT challenges, interoperability and certification of computer systems, Internet, basic computer security including identity and access management, and meaningful use standards. *Mode of delivery:* Didactic Online. *Offered:* Fall, Spring. *Instructor of Record:* Dr. Marcia Sharp (Fall); Dr. Marcia Sharp (Spring).
- MHIM 601 Quality Management in Health Services** *Credit: 2* Diverse perspectives in quality management and regulation including relevant research and management methodologies of quality, cost and access to healthcare with a focus on the role of health information management. Overview of performance improvement, methods and applications in the area of outcomes research including practice variation, risk adjustment, quality measures and quality management (or quality improvement), practice guidelines, evidence-based medicine, clinical decision support, health-related quality of life, utility assessment, economic evaluations (including cost- effectiveness studies). *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Stacy Dorris (Fall).
- MHIM 602 Legal Issues in Health Information Technology and Systems** *Credit: 3* Examination of legal issues related to electronic-based health information; the growth of computer and communication technologies, including privacy, security, electronic data interchange and compliance related issues; policy, regulatory and related concerns; interpretation and implementation of enterprise information policy. Principles of law applied to the health field with emphasis on federal, state, and local laws affecting health information management practice, confidentiality, and security of information. *Mode of delivery:* Didactic Online. *Offered:* Spring and Summer. *Instructor of Record:* Dr. Rebecca Reynolds (Spring).

- MHIM 603 Leadership for Health Information Technology and Systems** *Credit: 3* Strategic management and planning, change management, leadership in e-health environment, project management including planning, scheduling, monitoring and reporting, process modeling. This course builds on the foundations of health information management or other professional preparation. Discussion of implementation of electronic health record systems, systems analysis from the enterprise level will be the focus of the class. Students are expected to develop a systems-thinking approach to leading health IT projects. *Mode of delivery:* Didactic Online. *Pre-Requisites:* MHIM 600, 601, 602, 604, 605 *Offered:* Fall. *Instructor of Record:* Dr. Marcia Sharp (Fall).
- MHIM 604 Financial Management for Health Professionals** *Credit: 3* Overview of financial statements, components of operational budgeting and capital budgeting and management of capital projects; variance analysis, internal controls, contracts; facility – vendor and/or supplier relationships, cost reporting, reimbursement methods, and return on investment. The course will provide students with the foundation to recognize and to apply key financial principles to help their organizations meet their core business goals. *Mode of delivery:* Didactic Online. *Offered:* Spring. *Instructor of Record:* Richard Warren (Spring).
- MHIM 605 Healthcare Information Systems** *Credit: 3* A survey of fundamental concepts of information technology applied to health care from the perspectives of providers, payers, consumers. Major topics include the electronic health record, health information systems, repositories and data bases, enterprise-wide systems, laboratory, radiology (PACs) systems, voice recognition, physician order entry, telemedicine, decision support systems. Overview of historical, current, and emerging health information systems; concepts and knowledge involved in making strategic use of information technology (IT) in health care organizations and linkages to business, planning, and governance; Overview of multiple systems, vendors, processes and organizations; methodology for evaluation of health information systems. Includes system design methodologies including systems analysis and design; systems selection and evaluation; workflow analysis and project management. *Mode of delivery:* Didactic Online. *Offered:* Spring. *Instructor of Record:* Amanda King (Spring).
- MHIM 606 Healthcare Vocabularies and Clinical Terminologies** *Credit: 2* Standard clinical terminologies including SNOMED, UMLS, ICD-9-CM, ICD-10-CM, and ICD-10-PCS, CPT/HCPCS, National Drug Codes, RxNorm, National Drug File Reference Terminology, LOINXC, CCC and other nursing vocabularies, mapping, medical vocabulary standards, natural language processing and the role of healthcare vocabularies and clinical terminologies in the electronic health record. *Mode of delivery:* Didactic Online. *Offered:* Summer.
- MHIM 607 Statistics and Decision Making** *Credit: 3* Advanced statistical techniques building on existing knowledge of descriptive statistics and fundamental inferential statistics as applied in the field of health information; biostatistics, methods of health data collection, analysis, and interpretation, including descriptive statistics, probability, and hypothesis-testing and confidence interval estimation for normally distributed data; tools in using data to make informed management decisions; use of data from clinical information systems in performing clinical effectiveness research, including the strengths and limitations of these data. *Mode of delivery:* Didactic Online. *Offered:* Summer.
- MHIM 608 Knowledge Management** *Credit: 3* Database theory and methodologies for database design with emphasis on data integrity. Application of decision analysis and knowledge-based systems and decision analysis techniques; Topics include data mining, data marts, data warehouses, clinical data repositories, OLAP and data modeling and obtaining information from clinical and administrative systems. *Mode of delivery:* Didactic Online. *Pre-Requisites:* MHIM 601, Quality Management in Health Services, and MHIM 607, Statistics and Decision Making *Offered:* Spring. *Instructor of Record:* Dr. Sajeesh Kumar (Spring).

- MHIM 609 Concepts of Research Methodology** *Credit: 3* Discussion of the elements of research, evaluation methodologies including the research process, study design, methods of data collection with emphasis on preparation and evaluation of data collection instruments, statistical analysis of data including use of statistical packages, literature searches, and scientific writing. *Mode of delivery:* Didactic Online. *Pre-Requisites:* MHIM 607, Statistics and Decision Making *Offered:* Fall. *Instructor of Record:* Dr. Sajeesh Kumar (Fall).
- MHIM 610 Issues in Health Information Technology Seminar** *Credit: 2* An exploration of current issues related to health informatics including healthcare policy analysis and development, ethical issues, structure of healthcare delivery systems, assessment of population health, models of health care delivery, access and quality of care issues. *Mode of delivery:* Didactic Online. *Pre-Requisites:* MHIM 600, Information Technology and Systems, and MHIM 605, Health Information Systems *Offered:* Summer.
- MHIM 611 Thesis** *Credit: 3 pass/fail* Original research in the area of health information management, information systems and/or health informatics. Oral and written reports required, including oral presentation and defense of project. Requires permission of course director. *Mode of delivery:* Research based Online. *Pre-Requisites:* permission of course director *Offered:* Offered every term. *Instructor of Record:* Dr. Sajeesh Kumar (Fall); Dr. Sajeesh Kumar (Spring).
- MHIM 613 Applied Research Project** *Credit: 3 pass/fail* Rigorous project focused on a real-world informatics setting and application of problem-solving methods for development of solutions. May include original research in the area of health information management, information systems and/or health informatics. Oral and written reports required, including oral presentation and defense of project. *Mode of delivery:* Independent study Online. *Pre-Requisites:* permission of course director *Offered:* Offered every term. *Instructor of Record:* Dr. Sajeesh Kumar (Spring).

OCCUPATIONAL THERAPY

Ann H. Nolen, Psy.D., OTR, FAOTA, Interim Chair
Lawrence W. Faulkner, Ph.D., OT/L, Interim Vice-Chair

Academic Calendar for Occupational Therapy Program

| Date | Activity | Class |
|---|---|--------------|
| Monday, April 1, 2013 | Fall Registration begins | All |
| <i>Monday, May 27, 2013</i> | <i>Memorial Day (offices closed)</i> | |
| Monday, July 1, 2013 | Tuition and Fees Due Fall | All |
| Monday July 1, 2013 | Fall Level II Fieldwork (1 st) begins | MOT III |
| <i>Thursday, July 4, 2013</i> | <i>Independence Day (offices closed)</i> | |
| Monday July 8 th , 2013 | First day of Fall courses | MOT I |
| <i>Monday, September 2, 2013</i> | <i>Labor Day (offices closed)</i> | |
| September 3 – September 6, 2013 | Fall Break | MOT I |
| October 1, 2013 | Fall Level II Fieldwork (2 nd) begins | MOT III |
| Friday November 1, 2013 | Registration for Spring | All |
| <i>Thursday, November 28 – Friday, November 29, 2013</i> | <i>Thanksgiving break (offices closed)</i> | |
| Friday, December 13, 2013 | Last day of Fall courses | MOT I |
| Friday, December 13, 2013 | Fall Graduation | All |
| Monday, December 16, 2013 | Winter Break begins | All |
| <i>Monday, December 23, 2013- Friday December, 27, 2013</i> | <i>University Holiday (offices closed)</i> | |
| <i>Wednesday, January 1, 2014</i> | <i>New Year's Holiday (offices closed)</i> | |
| Thursday, January 2, 2014 | Tuition and Fees Due Spring | All |
| Thursday, January 2, 2014 | Spring Level II Fieldwork begins | MOT III |
| Monday, January 6, 2014 | Orientation begins | New Students |
| Monday, January 6, 2014 | First day of Spring courses | MOT I & II |
| <i>Monday, January 20, 2014</i> | <i>University Holiday (offices closed)</i> | |
| Monday, March 17 – Friday, March 21, 2014 | Spring Break | MOT I & II |
| Tuesday, April 1, 2014 | Fall Registration begins | All |
| <i>Friday, April 18, 2014</i> | <i>Spring Holiday (offices closed)</i> | |
| <i>Monday, May 26, 2014</i> | <i>Memorial Day (offices closed)</i> | |
| Friday, May 30, 2014 | Graduation | MOT III |
| Friday, June 13, 2014 | Last day of Spring courses | MOT I & II |
| Monday, June 16, 2014 | Summer Break begins | All |
| Monday, June 30, 2014 | Fall Fieldwork II begins | MOT III |
| Tuesday, July 1, 2014 | Fall Fees due | All |
| <i>Friday, July 4, 2014</i> | <i>Independence Day (offices closed)</i> | |
| Monday, July 7, 2014 | First day of Fall courses | MOT I |

MASTER OF OCCUPATIONAL THERAPY PROGRAM (MOT)

Program Objectives

The Master of Occupational Therapy Program is designed to prepare competent entry-level occupational therapists who can meet the present practice demands of the profession. Based in a strong foundation of liberal arts and of biological and behavioral sciences, students develop expertise in the analysis and therapeutic use of a wide variety of occupations. Students learn to understand and appreciate the role of occupation in the promotion of health, well-being, and participation in life. The program promotes both professional and academic development and seeks to graduate future leaders in healthcare. Graduates are eligible to sit for the NBCOT certification exam and become licensed.

Curriculum Description

The curriculum in occupational therapy is a full time program which leads to an entry-level master's degree. Students matriculate into the occupational therapy program following successful completion of 90 credit hours of pre-professional coursework. The full-time 27 month program includes 18 months of academic coursework followed by 9 months of fieldwork. Students are expected to graduate in May of their third year.

Courses cover occupation-centered practice, perspectives of development across the lifespan, evidence-based practice, biomechanical and neurological aspects of occupational performance, leadership in healthcare, and the basic sciences. To provide active learning experiences instructors use small group activities, hands on labs, and Level I fieldwork that may include mental health, pediatric, adult and geriatric practice areas.

Three Level II fieldwork placements provide students the opportunity to apply and synthesize knowledge and skills in a variety of settings. Level I and II fieldwork sites are available nationally. The department's Academic Fieldwork Coordinator arranges and monitors the fieldwork experiences. All students are expected to complete fieldwork in multiple geographic locations. The student is financially responsible for all expenses incurred.

Admission Requirements

A bachelor's degree is not a requirement for admission to the Master of Occupational Therapy Program. To be eligible, applicants must meet the following requirements:

1. Completion of the following 90 credit hours of pre-requisite coursework with a grade of "C" or better in each course: (The biology, anatomy and physiology, chemistry and physics/applied kinesiology courses *must be taken within the last five years and each must include a laboratory component*. Higher level science courses may be substituted if current.) No credit is awarded for prior experiential learning to meet the prerequisite requirements. All prerequisite courses must be completed by August preceding the January admission, effective with students entering January 2015.

| Prerequisite Requirements | Credit Hours |
|---|---------------------|
| General Biology (or Zoology) | 8 |
| Anatomy & Physiology | 8 |
| General Chemistry | 4 |
| General Physics or Applied Kinesiology | 4 |
| English Composition | 6 |
| Oral Communication | 3 |
| General Psychology | 3 |
| Lifespan Psychology (or Human Growth and Development) ²⁹ | 3 |
| Abnormal Psychology | 3 |
| General Sociology | 3 |
| Anthropology | 3 |
| Humanities ³⁰ | 9 |
| Statistics | 3 |
| Medical Terminology | 1 |
| Electives ³¹ | <u>29</u> |
| TOTAL | 90 |

2. Minimum overall grade point average (GPA) of 3.0. A lower GPA may be considered with an exceptional score on the Graduate Record Exam (GRE). If a required course is repeated both grades are used in the GPA calculation for the cumulative GPA. The credit hours assigned to the course may be counted only once in fulfilling the required number of hours.
3. Satisfactory score on the GRE taken within the last five years. The highest score in each category will be considered if the test has been taken more than once.
4. Completed application through the OT Centralized Application Service (OTCAS) www.otcas.org on or before March 1 of the year prior to the January start date. The student will submit all official transcripts to OTCAS. In addition to coursework completed, the student will report the following information on OTCAS on or before March 1:
 - a. Plan for completion of remaining pre-requisite coursework no later than September 1
 - b. GRE Scores
 - c. Three professional or academic references (occupational therapist preferred)
 - d. Volunteer observation hours
 - e. Leadership experiences
 - f. Essay
5. Official transcripts and GRE scores must also be submitted to the UTHSC OT Admissions Committee along with proof of at least 40 observation hours in a minimum of two different (OT) settings on or before March 1 prior to the January start date.

²⁹ Course content *MUST* cover conception to death. Two psychology courses may be required to fulfill the across the lifespan requirement at some institutions.

³⁰ Recommended courses to complete the nine credit hours include foreign language (Spanish preferred), philosophy, logic, ethics, literature, and/or fine arts.

³¹ Recommended courses include: computer/technology skills, kinesiology, education, technical or critical writing, logic, fine and performing arts, language and communication systems, philosophy, and industrial arts or activity-based courses (e.g., woodworking, ceramics, photography). No more than four credits in activity-based courses are acceptable.

6. Proof of the following is required by October 1 prior to January start date:
 - a. Ability to meet published technical standards of the College of Allied Health Sciences and the Master of Occupational Therapy degree program,
 - b. Background check
 - c. Health insurance
 - d. Transcripts showing completion of all pre-requisites with a "C" or better grade
7. Coursework from another occupational therapy program may not be transferred to meet the requirements for admission to or graduation from the program.

Application Deadline: March 1 for the following January admission.

Health Requirements

Students must demonstrate good physical and mental health consistent with the demands of the educational program and the professional field of occupational therapy. Immunization against Hepatitis B virus is required. Some fieldwork sites have additional requirements for health screening and/or further immunization. A description of the university's current health requirements can be accessed at www.uthsc.edu/admissions/university-level_regs.php

Technical Standards

Occupational therapy students must have or acquire certain essential skills, functions and professional attitudes and behavior as described in our Technical Standards document.

Motor Skills:

Candidates for admission to the Occupational Therapy Program must have sufficient motor function to elicit information from patients by touch, through hand held instruments to meet the goal of palpation, auscultation, percussion, and other standardized and non-standardized evaluative procedures. Candidates must be able to execute motor movements reasonably required to provide general occupational therapy, including the strength to perform cardiopulmonary resuscitation, lift and transfer patients, and be able to stand/sit long periods of time.

Occupational therapy procedures require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses. For this reason, candidates for admission to occupational therapy must have manual dexterity including function of wrists, hands, fingers, and arms. Candidates must have the ability to engage in procedures involving grasping, manipulating, pushing, pulling, holding, extending, and rotating.

Sensory/Observational Skills:

Candidates must be able to observe demonstrations and participate in laboratory experiments as required by the curriculum. Candidates must be able to observe patients and be able to obtain an appropriate past and present history directly from the patient/family. Such observation necessitates the functional use of the senses. Candidates must have the ability to listen and read patients' vital signs and visual perception, including depth and acuity to observe patients' ability to utilize skills being taught and to be able to instruct patients in how to adjust those movements for safe body mechanics and activities of daily living.

Communication Skills:

Candidates must be able to communicate in English effectively and sensitively with patients. In addition, candidates must be able to communicate in English in oral and written form with faculty, allied personnel, and peers in the classroom, laboratory, and clinical settings. Such communication skills include not only speech, but also reading and writing. Candidates must be able to acquire information developed through classroom instruction, clinical experiences, independent learning, and consultation. Candidates must have the ability to complete reading assignments and search and evaluate the literature. Candidates must be able to complete written assignments and maintain written records. Candidates must have the ability to complete assessment exercises. Candidates must also have the ability to use therapeutic communication, such as attending, clarifying, coaching, facilitating, and touching. These skills must be performed in clinical settings, as well as the didactic and laboratory environments.

Intellectual/Conceptual, Integrative, and Qualitative Skills:

Candidates must have the ability to measure, calculate, reason, analyze, and synthesize data. Problem solving and diagnosis, including obtaining, interpreting and documenting data are critical skills demanded of occupational therapists, which require all of these intellectual abilities. These skills allow students to make proper assessments, sound judgments, appropriately prioritize therapeutic interventions and measure and record patient care outcomes. Candidates must have the ability to access computers for searching, recording, storing, and retrieving information. In addition, candidates must be able to comprehend three-dimensional relationships and understand the spatial relationships of anatomic structures.

Behavioral/Social Skills and Professionalism:

Candidates must demonstrate attributes of empathy, integrity, concern for others, interpersonal skills, interest, and motivation, as such qualities are assessed not only during the admissions process but throughout occupational therapy education. Candidates must possess the emotional well-being required for use of their intellectual abilities, the exercise of care of patients, and the development of mature, sensitive, and effective relationships with patients. Candidates must be able to adapt to ever-changing environments, display flexibility, and learn to function in the face of uncertainties and stresses which are inherent in the educational process, as well as the clinical problems of many patients. Candidates must have the ability to be assertive when required, delegate responsibilities when desirable, and function as part of a multidisciplinary treatment team. Such abilities require organizational skills necessary to meet deadlines and manage time.

Scholarships

The following scholarships are available to students entering the Master of Occupational Therapy Program:

- UTNAA Scholarship
- Chancellor's Scholarship
- Lori Malloy Scholarship

The Professional Curriculum

FIRST TERM (Jan–June)

| Block I (Jan-mid March) | Credit Hours |
|---|---------------------|
| ANAT 411 Anatomy | 6 |
| OT 425 Foundations of Occupation-Centered Practice (<i>continues to Block II</i>) | * |
| OT 431 Leadership Development I | 1 |
| OT 437 Perspectives of Early Development (<i>continues in Block II</i>) | * |
| OT 440 Level I Fieldwork A (occurs between blocks) | * |
| Block II (April-early June) | |
| ANAT 442 Neurobiology | 2 |
| OT 400 Introduction to Pathology | 1 |
| OT 425 Foundations of Occupation-Centered Practice (<i>cont' from Block I</i>) | 4 |
| OT 430 Biomechanical Aspects of Occupational Performance | 3 |
| OT 436 Evidence-Based Practice | 2 |
| OT 437 Perspectives of Early Development (<i>continued from Block I</i>) | 3 |
| OT 440 Level I Fieldwork A | 1 |
| Total Hours for Term I | 23 |

*credit awarded at end of the term

SECOND TERM (July–Dec)

| | |
|---|-----------|
| Block I (July-August) | |
| OT 532 Occupation-Centered Group Practice (<i>continues in Block II</i>) | * |
| OT 536 Research Project Design (<i>continues in Block II</i>) | * |
| OT 537 Neurological Aspects of Occupational Performance | 3 |
| OT 538 Perspectives of Adult Development | 3 |
| OT 540 Level I Fieldwork B (occurs between Blocks) | * |
| Block II (Late September-mid December) | |
| OT 531 Occupation-Centered Practice in Community Mental Health | 4 |
| OT 532 Occupation-Centered Group Practice (<i>continued from Block I</i>) | 3 |
| OT 533 Occupation-Centered Practice in Pediatrics | 4 |
| OT 535 Occupation-Centered Practice in Adulthood | 4 |
| OT 536 Research Project Design (<i>continued from Block I</i>) | 2 |
| OT 540 Level I Fieldwork B ³² | 1 |
| Total Hours for Term II | 24 |

THIRD TERM (Jan–June)

| Block I | Credit Hours |
|---|---------------------|
| OT 630 Leadership Development II | 2 |
| OT 636 Research Project Implementation (<i>continues in Block II</i>) | * |
| OT 640 Level I Fieldwork C ³³ (occurs between blocks) | * |
| OT 641 Perspectives of Aging | 3 |
| OT 642 Leadership in Healthcare | 4 |

³² Level I fieldwork is typically two weeks

³³ Level II fieldwork is typically twelve weeks.

Block II

| | |
|--|-----------|
| OT 633 Occupation-Centered Practice with Older Adults | 4 |
| OT 636 Research Project Implementation (<i>continues from Block I</i>) | 3 |
| OT 637 Presentation of Research Project | 1 |
| OT 638 Special Topics | 1 |
| OT 640 Level I Fieldwork C (<i>occurs between blocks</i>) | 1 |
| Total Hours for Term III | 19 |

FOURTH TERM (July-Dec)

| | |
|--------------------------------|-----------|
| OT 731 Level II Fieldwork A | 5 |
| OT 732 Level II Fieldwork B | 5 |
| Total Hours for Term IV | 10 |

FIFTH TERM (Jan-Mar)

| | |
|-------------------------------|----------|
| OT 733 Level II Fieldwork C | 5 |
| Total Hours for Term V | 5 |

| | |
|--|-----------|
| TOTAL HOURS IN THE MOT CURRICULUM | 81 |
|--|-----------|

Attendance Requirement

Occupational therapy students are expected to attend all scheduled classes, student labs, and fieldwork assignments. In the case of absence due to illness or emergency, the student should notify the course instructor. The CAHS has a policy of mandatory attendance and therefore there are no excused absences. Appointments for health services should not be made during scheduled class time.

Fieldwork

Level I and Level II fieldwork sites are located in Memphis, throughout Tennessee, and in other states. Due to the limited number of fieldwork sites in Memphis, it is necessary for students to accept the financial impact of traveling and living out of town for a number of their fieldwork assignments.

Grading Policy

Written and practical examinations and performance evaluations are a part of the educational program throughout the curriculum. All courses in each term must be passed before the student is allowed to progress to the next term. All courses that receive an incomplete (I) must be resolved by the end of the subsequent term. No credit for any course is awarded until the end of the term. The point-grade conversion scale used for all courses taught by occupational therapy faculty is as follows:

| | |
|----------|-----|
| 94-100 | = A |
| 86-93 | = B |
| 78-85 | = C |
| 70-77 | = D |
| Below 70 | = F |

Information about grading related to incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignment in these situations.

Progress and Promotion

Students are evaluated on both professional development and academic achievement. Students must maintain a GPA of 3.0 on a 4.0 scale in each term and cumulatively in order to progress to the next term in good standing. Any student who earns a grade of C or less in any course or whose GPA falls below a 3.0 may be placed on academic probation or dismissed. All students must complete all coursework with a cumulative GPA of 3.0 or higher to be eligible for Level II fieldwork. Guidelines for progress and promotion are outlined under the General Information section in the *catalog* for the College of Allied Health Sciences. Each student's academic and professional development will be carefully evaluated by the Progress and Promotions Committee of the Master of Occupational Therapy program to determine the course of action which is best for the student and for the program.

Requirements for Graduation

The following requirements must be satisfied to earn the Master of Occupational Therapy degree:

- Satisfactory completion of 81 credit hours of professional curriculum course work, including satisfactory performance in 15 credit hours of Level II Fieldwork. *Level II Fieldwork requirements must be completed within the 24 months following completion of on-campus academic coursework*
- Completion of all courses in the MOT curriculum with an overall GPA of a 3.0 or higher.
- Demonstration of the level of professionalism necessary for the professional practice of occupational therapy.
- Ability to meet the minimal technical standards or essential skills necessary for the professional practice of occupational therapy.
- Submission and satisfactory completion of all assignments related to fieldwork and the Professional Development Evaluation.

Attendance at graduation is mandatory. Those unable to attend the commencement must obtain permission to receive the degree in absentia by filing a written request with the Dean of the College.

Awards

Achievement Award in Occupational Therapy

Each year the faculty selects a graduating student who has been outstanding in both the didactic and fieldwork aspects of his or her education.

Leadership Award in Occupational Therapy

For this award faculty and students select a graduating student who has demonstrated the professional characteristics of outstanding leadership in both didactic coursework and during the fieldwork rotations.

Certification Examination and Licensure

Graduates with a master of occupational therapy degree qualify to sit for the national certification examination administered through the National Board of Certification for Occupational Therapy (NBCOT). Information regarding this process may be found at their website, <http://www.nbcot.org>. Students must consult the licensure board in the state where they plan to practice to determine licensure requirements.

Accreditation

The Accreditation Council for Occupational Therapy Education has accredited the Master of Occupational Therapy Program through the 2019/2020 academic year. ACOTE is located at 4720 Montgomery Lane, Suite 200, Bethesda, MD, 20814-3449. Telephone: (301) 652-AOTA ext. 2914, fax 301-652-7711; Web address: www.acoteonline.org; E-mail: accred@aota.org

Student Professional Organization Membership

Occupational therapy students are eligible for membership in the Student Occupational Therapy Association (SOTA).

COURSE DESCRIPTIONS

- ANAT 411 Gross Anatomy** *Credit: 6* Study of the gross structure of the human body focusing on the musculoskeletal and cardiovascular systems. Dissection of cadaver supplemented by Lecture. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Dr. Joseph Callaway (Spring).
- ANAT 442 Neurobiology** *Credit: 2* This course covers the basic organization of the central, peripheral and autonomic nervous system. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Dr. William Armstrong (Spring).
- OT 400 Introduction to Pathology** *Credit: 1* An introduction to the pathological origins of disease as they relate to the musculoskeletal respiratory and other major body systems. The course also reviews neoplasia, cell injury, immunopathology and describes its application to occupational therapy. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Brittany Hoffer (Spring).
- OT 425 Foundations of Occupation-Centered Practice** *Credit: 4* This course serves as the foundation for the holistic practice of occupational therapy as defined by the history of the profession and the ethical standards that guide practice. Emphasis will be on the development of the profession as well as development of professional reasoning through the use of professional terminology, activity analysis, the occupational therapy practice framework, basic theoretical and philosophical constructs, knowledge, skills and attitudes essential for successful practice in occupational therapy. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Ms. Jami Flick (Spring).
- OT 430 Biomechanical Aspects of Occupational Performance** *Credit: 3* The course will integrate the study of the structure and function of muscles and joints, including electromyography (EMG) and biomechanics. The students will be prepared to consider occupations for therapeutic intervention based on EMG and biomechanical analysis. It will examine properties of muscles and muscle contractions, range of motion, strength and joint structure to address occupational performance dysfunction. The course will help apply the utilization of lower limb muscles in ambulation and stability and help formulate and apply determination of manual muscle range of motion normative data, goniometry measurement and functional range for clinical application, explore joint structure, function and joint categories. Initial practice in patient handling techniques, transfers and proper body mechanics will be included. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Ms. Ellen Robertson (Spring).
- OT 431 Leadership Development I** *Credit: 1* Course with team-based approach. Introduction to professional behavior and concepts central to the development of leadership and emphasizing the importance of a strong occupational therapist identity. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Anne Zachry (Spring).
- OT 436 Evidence-Based Practice** *Credit: 2* This course is designed to develop/increase the ability to collect evidence from published research reports and one's own experience to answer practice related questions. In addition, students will discuss the ethical and practical issues that can influence the search for sound evidence. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Lawrence Faulkner (Spring).
- OT 437 Perspectives of Early Development** *Credit: 3* This course involves the study of the conceptual and theoretical basis of occupational therapy practice with children. The course will include selected diagnoses which are commonly encountered by pediatric occupational therapists and theoretical principles commonly used in assessment and intervention for children with these diagnoses. The course emphasizes assessment but also introduces treatment principles through the introduction and application of selected frames of reference. The course includes lecture, discussion and lab. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Dr. Anita Mitchell (Spring).

- OT 440** **Level I Fieldwork A** *Credit: 1* Level I Fieldwork includes those experiences designed as an integral part of Didactics for the purpose of directed observation and participation in selected field settings. It does not emphasize independent student performance. Students will complete fieldwork related assignments designed to stimulate critical reasoning and application of occupational therapy principles in a clinical setting. The occupational therapy concepts highlighted in this course include: the occupational profile, client factors, performance patterns, context, and client performance, collaboration between client and practitioner, and health promotion. Students are financially responsible for fieldwork related expenses. *Mode of delivery:* Clinical. *Offered:* Spring. *Instructor of Record:* Ms. Jami Flick (Spring).
- OT 531** **Occupation Centered Practice in Community Mental Health** *Credit: 4* Team based and laboratory and clinical experience. This course uses theory, evidence and problem solving skills to develop a conceptual framework for occupation centered practice with mental health clients in community mental health settings. This course includes observation experience with clients in various stages of life and in a variety of community mental health treatment settings. Students will use clinical reasoning in the selection of theoretical approach, data gathering, treatment planning and intervention. Occupational therapy assessments that are applicable to community settings will be introduced and practiced. Focus is on community practice and the psychosocial understanding of challenges faced by clients with mental illnesses during their recovery and community reintegration process. *Mode of delivery:* Didactic, team based and laboratory and clinical experience. *Offered:* Fall. *Instructor of Record:* Dr. Ann Nolen (Fall).
- OT 532** **Occupation-Centered Group Practice** *Credit: 3* This course examines the dynamics of group interaction and how activity and occupation may be utilized in the group experience to promote participation for health and well-being. Through the small group experiences, the student will develop leadership skills and practice teamwork. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Rosemary Batorski (Fall).
- OT 533** **Occupation-Centered Practice in Pediatrics** *Credit: 4* This course provides opportunities for the application of theoretical constructs of occupational therapy practice with children, including the evidence base for client-centered assessment and intervention approaches. Students will practice critical reasoning through the use of cases taking into the account the individual, the context of his/her functioning, and his/her perception of quality of life, well-being, and occupation. The course includes lab, discussion and case-based approaches. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Dr. Anita Mitchell (Fall).
- OT 535** **Occupation-Centered Practice in Adulthood** *Credit: 4* This course promotes the application of theoretical constructs of occupational therapy practice, including the evidence base for client-centered assessment and intervention approaches. It requires utilization of the systems approach, taking into account the individual, the context of his/her functioning, and his/her perception of quality of life, well-being, and occupation. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Ellen Robertson (Fall).
- OT 536** **Research Project Design** *Credit: 2* This course includes principles of research design, critical analysis of occupational therapy research, preparation of the literature review, and completion of a proposal for a selected project or presentation. Introduction to clinical inquiry skills for qualitative and quantitative research is also included. Emphasis on problem definition, research design and methodology, including differential and inferential statistical analysis. Students will begin the proposal for the project or presentation. *Mode of delivery:* Didactic and mentor led group Independent study. *Offered:* Fall. *Instructor of Record:* Dr. Lawrence Faulkner (Fall).
- OT 537** **Neurological Aspects of Occupational Performance** *Credit: 3* This course considers the function and dysfunction associated with anatomy and physiology of the nervous system. Emphasis is on clinical manifestations associated with occupational performance in the sensory, motor, cognitive and psychosocial domains. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Anne Zachry (Fall).

- OT 538 Perspectives of Adult Development** *Credit: 3* This course is the study of the conceptual and theoretical basis of occupational therapy practice in adulthood. The course will integrate the theoretical principles with developmentally appropriate occupations, adaptive demands and selected impairments. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Dr. Brittany Hoffer (Fall).
- OT 540 Level I Fieldwork B** *Credit: 1* Level I Fieldwork includes those experiences designed as an integral part of Didactics for the purpose of directed observation and participation in selected field settings. It does not emphasize independent performance. Students will complete fieldwork related assignments designed to stimulate critical reasoning and application of occupational therapy principles in a clinical setting. The occupational therapy concepts highlighted in this course include: the occupational profile, client factors, performance patterns, context, client performance, collaboration between client and practitioner, and health promotion. Students are financially responsible for fieldwork related expenses. *Mode of delivery:* Clinical practice. *Offered:* Fall. *Instructor of Record:* Ms. Jami Flick (Fall).
- OT 630 Leadership Development II** *Credit: 2* This course focuses on level II fieldwork responsibilities and prepares the student for this role. Emphasis will be on innovative leadership, interpersonal skills and client diversity. This course transitions the student, preparing them for licensing and practice requirements. *Mode of delivery:* Clinical practice Hybrid. *Offered:* Spring. *Instructor of Record:* Dr. Lisa Tekell (Spring).
- OT 633 Occupation-Centered Practice with Older Adults** *Credit: 4* This course involves application of theoretical constructs of occupational therapy practice, including the evidence basics for client-centered assessment and intervention approaches for older adults. It will take into account the individual, the context of his/her functioning, and his/her perception of quality of life, well-being and occupation. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Dr. Lawrence Faulkner (Spring).
- OT 636 Research Project Implementation** *Credit: 3* Implementation of the proposal for the project or presentation, including needs assessment, distribution of surveys, data collection and analysis. *Mode of delivery:* Didactic and small group Independent study. *Offered:* Spring. *Instructor of Record:* Dr. Lawrence Faulkner (Spring).
- OT 637 Presentation of Research Project** *Credit: 1* Preparation of a presentation or investigative project in partial fulfillment of the requirements of a master's degree program. Professional contribution through submission of a manuscript to a professional publication, or presentation at a professional meeting is expected. *Mode of delivery:* Didactic and mentor led group Independent study. *Offered:* Spring. *Instructor of Record:* Dr. Lawrence Faulkner (Spring).
- OT 638 Special Topics** *Credit: 1* This course will provide focused training and exploration of current practices or topics in occupational therapy. The content Varies based upon practice demands or literature trends. Examples include autism spectrum disorders, physical agent modalities, advanced splinting, recovery model or occupational justice. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Dr. Lawrence Faulkner (Spring).
- OT 640 Level I Fieldwork C** *Credit: 1* Level I Fieldwork includes those experiences designed as an integral part of Didactics for the purpose of directed observation and participation in selected field settings. It does not emphasize independent performance. Students will complete fieldwork related assignments designed to stimulate critical reasoning and application of occupational therapy principles in a clinical setting. The occupational therapy concepts highlighted in this course include: the occupational profile, client factors, performance patterns, context, client performance, collaboration between client and practitioner, and health promotion. Students are financially responsible for fieldwork related expenses. *Mode of delivery:* Clinical. *Offered:* Spring. *Instructor of Record:* Ms. Jami Flick (Spring).

- OT 641 Perspectives of Aging** *Credit: 3* This course involves the study of conceptual and theoretical bases of occupational therapy practice with elders. The course will include selected diagnoses which are commonly encountered by occupational therapists and theoretical principles commonly used in assessment and intervention for elders with these diagnoses. The course emphasizes assessment but also introduces treatment principles through the introduction and practice of application of selected frames of reference. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Dr. Anne Zachry (Spring).
- OT 642 Leadership in Healthcare** *Credit: 4* The occupational therapist of the future is expected to be a leader in shaping healthcare policy, providing client advocacy, and managing occupational therapy services. This course will provide the knowledge and understanding of the various contexts, such as professional, social, cultural, political and ecological in which occupational therapy services are provided. Management of occupational therapy services will include the application of principles of the management and systems in the provision of OT services to individuals and organizations. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Dr. Brandi Franklin (Spring).
- OT 731 Level II Fieldwork A** *Credit: 5 Pass/Fail* The first Level II Fieldwork experience is designed to facilitate students' personal and professional development. The integration and application of clinical reasoning and practical skills will be required in each of three placements. Students will experience a range of client populations and settings to include psychosocial, physical disabilities, and an area of special interest to the student. The fieldwork experience is provided at approved facilities with supervision that meets ACOTE accreditations standards. Students are responsible for all costs related to fieldwork experiences; placements may be required out-of-state. *Mode of delivery:* Clinical. *Pre-Requisites:* Permission of Academic Fieldwork Coordinator. *Offered:* Fall. *Instructor of Record:* Dr. Lisa Tekell (Fall).
- OT 732 Level II Fieldwork B** *Credit: 5 Pass/Fail* The second Level II Fieldwork experience is designed to facilitate the student's personal and professional development. The integration and application of clinical reasoning and practical skills will be required in three placements. Students will experience a range of client populations and settings to include psychosocial, physical disabilities, and an area of special interest to the student. The fieldwork experience is provided at approved facilities with supervision that meets ACOTE accreditations standards. Students are responsible for all costs related to fieldwork experiences; placements may be required out-of-state. *Mode of delivery:* Clinical. *Pre-Requisites:* Permission of Academic Fieldwork Coordinator. *Offered:* Fall, Spring (as needed). *Instructor of Record:* Dr. Lisa Tekell (Fall).
- OT 733 Level II Fieldwork C** *Credit: 5 Pass/Fail* The third Level II Fieldwork is designed to facilitate the student's personal and professional development. The integration and application of clinical reasoning and practical skills will be required in each of three placements. Students will experience a range of client populations and settings to include psychosocial, physical disabilities, and an area of special interest to the student. The fieldwork experience is provided at approved facilities with supervision, which meets ACOTE accreditations standards. Permission from the Academic Fieldwork Coordinator is required. Students are responsible for all costs related to fieldwork experiences; placements may be required out-of-state. *Mode of delivery:* Clinical. *Offered:* Spring. *Instructor of Record:* Dr. Lisa Tekell (Spring).
- OT 734 Advanced Level II Fieldwork** *Credit: 1-5 Pass/Fail* Elective clinical experience. The advanced fieldwork is open to a limited number of students. Permission from the Academic Fieldwork Coordinator is required. Students are responsible for all costs related to fieldwork experiences; placements may be required out-of-state. *Mode of delivery:* Clinical. *Offered:* Offered as needed.

PHYSICAL THERAPY

Carol Counts Likens, PhD, PT, MBA, Chairman
 Pamela Ritzline, EdD, PT, Director, Post-Professional Program in Physical Therapy
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The Department of Physical Therapy offers three degree programs: Doctor of Physical Therapy (DPT); Master of Science in Physical Therapy (MSPT); Doctor of Science in Physical Therapy (ScDPT); and one degree completion program (Doctor of Physical Therapy - Transition). The Department also offers a Physical Therapy Orthopaedic Clinical Residency program.

Academic Calendar for Physical Therapy Programs

| Date | Activity | Class |
|---|---|--|
| Monday, July 1, 2013 | Last day to register fall 2 and 3; Tuition and fees due fall 3 | All, except new students |
| Monday, July 1, 2013 | Fall 1 and 2 classes begin | DPT 2 and 3 |
| Thursday, July 4, 2013 | <i>Independence Day (Offices closed)</i> | |
| Wednesday, August 14 -17, 2013 | Orientation | New DPT students |
| Monday, August 19, 2013 | Fall 3 Classes begin | New DPT students; MS and ScDPT students |
| Monday, September 2, 2013 | <i>Labor Day (Offices closed)</i> | |
| Friday, November 1, 2013 | Spring 1, 2 and 3 registration begins | All |
| Thursday, November 28 – Friday, November 29, 2013 | Thanksgiving break (offices closed) | |
| Sunday, December 8, 2013 | Last day of classes | All |
| Friday, December 13, 2013 | Last day for final exams | All |
| Friday, December 13, 2013 | Graduation | MS and ScDPT |
| Monday, December 23, 2013-Friday, December 27, 2013 | <i>University Holiday (offices closed)</i> | |
| Wednesday, January 1, 2014 | <i>University Holiday (offices closed)</i> | |
| Thursday, January 2, 2014 | Last day to register Spring; Tuition and Fees Due Spring | All |
| Monday, January 6, 2014 | Spring classes begin | All |
| Monday, January 20, 2014 | <i>University Holiday (offices closed)</i> | |
| Monday, March 17 – Friday, March 21, 2014 | Spring Break | All |
| April 1, 2014 | Fall registration begins | |
| Friday, April 18, 2014 | <i>Spring Holiday (offices closed)</i> | |
| Monday, May 26, 2014 | <i>Memorial Day (offices closed)</i> | |
| Friday, May 30, 2014 | Graduation | DPT 3, MSPT and SCDPT |
| Friday, June 6, 2014 | Last day of classes | All except DPT 3 |
| Friday, June 13, 2014 | Last day of final exams | |

DOCTOR OF PHYSICAL THERAPY PROGRAM (DPT)

Carol Counts Likens, PhD, PT, MBA, Program Director

Objectives of the DPT Program

The objectives of the Doctor of Physical Therapy degree program are to provide to enrolled students a quality education that requires accumulation of scientific knowledge, acquisition of essential physical therapy skills and the development of professional attitudes and behaviors. Graduates of the program are qualified to sit for the National Physical Therapist Examination. A passing score on the examination is required for licensure as a physical therapist.

Curriculum Description

The Department of Physical Therapy is located within the College of Allied Health Sciences. The program is designed as a full time “4 + 3” program that leads to the Doctor of Physical Therapy degree. Students complete four years of pre-professional coursework at other colleges or universities, and then complete three years of professional education on the Memphis campus of the University of Tennessee Health Science Center. Candidates are required to have a baccalaureate degree prior to admission. Students matriculate in the fall term and graduate at the end of the spring term (May), three years later, after completion of all academic and clinical internship requirements. Clinical internship sites are located in Memphis, throughout Tennessee, and in surrounding states. Due to the limited number of clinical sites in Memphis and other urban areas, students should anticipate the financial impact of traveling and living out of town for the majority of their clinical internships. The intent of the clinical internships is to provide the student with broad exposure to physical therapy practice in a variety of settings and geographic locations. As a rule, no student will be allowed to complete all clinical internship experiences in any one geographic location.

Admission Requirements

To be eligible for consideration for admission, applicants must fulfill the requirements listed below. Meeting the minimum requirements does NOT assure admission to the Doctor of Physical Therapy program. Priority is given to residents of Tennessee. Applicants whose native language is not English must submit results of TOEFL, with minimal score of 550.

1. A baccalaureate degree and all prerequisite courses must be completed prior to enrollment, with a minimum cumulative grade point average of 3.0 on a 4.00 scale. Grades of “D” in required courses are not acceptable.
 - If a required course is repeated, both grades are calculated into the cumulative GPA, but the credit hours assigned to the course may be counted only once in fulfilling the required number of hours.
 - Credit hours earned for non-theory courses in physical education, music, and military science are not accepted in fulfillment of prerequisite hours or as elective hours.
 - Credit for science courses completed more than five years prior to application will be carefully reviewed by the Admissions Committee and may not be accepted in fulfillment of the required number of hours.
 - Courses completed in a PTA program may not be used in fulfillment of any science course required for admission to the UTHSC physical therapy program. Selected coursework completed in a PTA program may be accepted in partial fulfillment of the required number of elective hours.
 - Transcripts from foreign education institutions are not considered.

- The following 19 hours of pre-requisite courses must be completed and reported on official transcripts before an application will be considered for admission: Biology I, Chemistry I, Physics I, Anatomy and Physiology I, and Psychology I
2. A competitive score on the verbal and quantitative sections of the Graduate Record Examination is required.
 3. A completed application submitted to the **Physical Therapist Centralized Application Service** (PTCAS) at www.ptcas.org <<http://www.ptcas.org>> must be received by October 1st (soft deadline) and January 15th (application close date) for fall admissions. ALL application materials, including transcripts, GRE scores, PT observation hours, and pre-professional evaluation, must be **verified** by PTCAS within four (4) weeks of the application close date for the Admissions Committee to consider the application.
 4. A personal interview, if requested (based on science/math/psychology GPA and GRE score), is required for admission.
 5. One completed pre-professional evaluation on the PTCAS site from either an applicant's basic science professor *OR* the applicant's academic advisor.
 6. Applicants must demonstrate good physical and mental health consistent with the demands of the education program.
 7. Applicants who accept a position in the program must declare the ability to fulfill the Technical Standards for Admission to the College of Allied Health Sciences, Department of Physical Therapy.

Technical Standards for Physical Therapy Students

Motor Skills:

The delivery of physical therapy requires gross and fine motor control. Students in the Department of Physical Therapy must have the physical strength, stamina, and motor control to lift and transfer patients, assist patients with ambulation, stand for prolonged periods of time, perform CPR, and perform all other activities associated with patient care. Candidates must have sufficient manual dexterity, strength and endurance to engage in physical therapy procedures that involve palpating, grasping, pushing, pulling, and holding. Additionally, the student must be able to ensure the safety of the patient at all times.

Sensory/Observational Skills:

Students in the Department of Physical Therapy must be able to observe demonstrations and participate in all educational experiences as required in the curriculum. Students must be able to observe patients and be able to obtain an appropriate medical history directly from the patient or guardian. Such observation and participation necessitates the functional use of vision, hearing, and other sensory modalities.

Communication Skills:

Students in the Department of Physical Therapy must be able to communicate in English effectively and sensitively with patients. In addition, students must be able to communicate in English in oral and written form with faculty, other healthcare providers, and peers in the classroom, laboratory, and clinical settings. Such communication skills include hearing, speaking, and reading and writing in English. Students must have the ability to complete reading assignments and search and evaluate the literature. Students must be able to complete written assignments and maintain written records. Students must also have the ability to use therapeutic communication, such as attending, clarifying, coaching, facilitating, and touching. These skills must be performed in clinical settings, as well as the didactic and laboratory environments.

Intellectual/Conceptual, Integrative, and Qualitative Skills:

Students in the Department of Physical Therapy must have the ability to measure, calculate, reason, analyze, and synthesize data. Problem solving and diagnosis, including obtaining, interpreting, and documenting data, are critical skills demanded of physical therapists which require all of these intellectual abilities. These skills allow students to make proper assessments, sound judgments, appropriately prioritize therapeutic interventions, and measure and record patient care outcomes. Students must have the ability to use computers for searching, recording, storing, and retrieving information. In addition, students must be able to comprehend three-dimensional relationships and understand the spatial relationships of anatomic structures.

Behavioral/Social Skills and Professionalism:

Students in the Department of Physical Therapy must demonstrate attributes of empathy, integrity, concern for others, interpersonal skills, interest, and self-motivation, as such qualities are assessed not only during the admissions process but throughout physical therapy education. Students must be able to exercise sound judgment, complete the responsibilities attendant to the evaluation and care of patients, and develop mature, sensitive, and effective relationships with patients. Students must be able to adapt to ever-changing environments, display flexibility, respect individual differences and learn to function in the face of uncertainties and stresses that are inherent in the educational process, as well as the clinical problems of many patients. Students must have the ability to be appropriately assertive, delegate responsibilities appropriately, and function as part of a physical therapy team. Such abilities require the organizational skills and initiative necessary to meet deadlines and manage time.

8. Coursework from another physical therapy program may not be transferred to meet the requirements for admission to or graduation from the DPT program.

Prior to enrollment, the following courses must be completed with grades of "C" or better. Science courses that are delivered in a virtual or online format are not acceptable.

| Courses | Credit Hours |
|---|--------------|
| Biological Sciences* (must include General Biology or General Botany And General Zoology) | 8 |
| Anatomy and Physiology* | 8 |
| General Chemistry* | 8 |
| General Physics* | 8 |
| Mathematics ¹ | 3 |
| Statistics ² | 3 |
| General Psychology ³ | 6 |
| Humanities/Social Sciences ⁴ | 12 |
| English Composition | 6 |

**Must include laboratory experiences*

1. Student must complete coursework that fulfills physics prerequisite.
2. Statistics - content must include nonparametric and parametric statistics, descriptive and inferential statistics, including analysis of variance. Use of statistical techniques with data sets, interpretation of statistical results and computer interaction in data analysis are strongly recommended. Biomedical statistics, education statistics, psychology statistics as well as statistics courses in the math department are acceptable.
3. Must include General Psychology I and II, or General Psychology I and either Human Growth and Development or Abnormal Psychology.
4. Recommended courses to complete humanities/social science courses are: additional psychology, sociology, anthropology, economics, counseling, human relations, political science, humanities, art history, philosophy or logic, English literature, history, foreign language, fine arts, religion.

Factors Considered in the Selection of Students

Factors utilized by the Admissions Committee include, but are not necessarily limited to:

1. Academic Record. Past academic performance is considered an indication of the probability of an applicant's completing the academic portion of the program successfully. As noted, the minimum GPA required for admission is 3.0; however, the average GPAs of recent entering classes has been 3.5 or higher.
2. Graduate Record Examination scores.
3. Personal Interview. Students admitted to the professional program are selected on a competitive basis. The personal interview explores areas such as: experience and knowledge of the profession, interpersonal skills, communication skills, problem solving abilities and professional potential.
4. Motivation and Knowledge of the Field. The Admissions Committee believes that students who are knowledgeable about what physical therapists do are most likely to take maximum advantage of the educational opportunities in the physical therapy education program. Interest in and knowledge of the field may be evidenced by an applicant's having taken advantage of available opportunities for learning about physical therapy. No set numbers of observational/volunteer/actual work experience hours are required. However, students who have been successful in gaining admission to the program typically have over 100 hours in a variety of settings, and with a variety of patients with various diagnoses. These students were also successful in expressing their overall knowledge of the field of physical therapy during their individual interviews.

The Professional Curriculum

The schedule of a physical therapy student is rigorous. Because of the time required for attending lectures, laboratories and clinical assignments, plus the time necessary for study and practice, students are encouraged to minimize outside work commitments during the time they are enrolled in the program.

Following is a summary of the required courses included in the Doctor of Physical Therapy professional curriculum. Required courses are offered annually in the terms indicated.

| (1) FALL TERM I (August–December) | Credit Hrs | Lect Hrs | Lab Hrs |
|--|-------------------|-----------------|----------------|
| PT 500 Basic Pathology for Physical Therapists | 2 | 30 | 0 |
| PT 501 Principles of Research | 3 | 45 | 0 |
| PT 502 Neurobiology for Physical Therapists | 3 | 45 | 0 |
| PT 505 Fundamentals of Physical Therapy | 2 | 20 | 24 |
| PT 506 Psychosocial Aspects of Physical Therapy | 3 | 46 | 0 |
| PT 510 Applied Exercise Physiology for Physical Therapists | 3 | 46 | 12 |
| PT 514 Clinical Procedures I | 3 | 30 | 40 |
| PT 609 Professional, Ethical, and Supervisory Issues | 2 | 30 | 0 |
| TOTAL | 21 | 292 | 76 |

| | Credit Hrs | Lect Hrs | Lab Hrs |
|--|------------|------------|------------|
| (2) SPRING TERM I (January–June) | | | |
| ANAT511 Gross Anatomy for Physical Therapists | 6 | 60 | 60 |
| PT 520 Introduction to Therapeutic Exercise | 3 | 20 | 22 |
| PT 522 Physical Therapy in Neurological Disorders I | 4 | 45 | 52 |
| PT 523 Physical Evaluation Procedures | 5 | 45 | 60 |
| PT 525 Applied Pathology | 3 | 45 | 0 |
| PT 526 Kinesiology/Pathokinesiology | 4 | 65 | 0 |
| PT 528 Physical Therapy in Orthopedics I | 3 | 36 | 16 |
| PT 529 Fundamentals of Imaging for Physical Therapists | 1 | 15 | 0 |
| PT 530 Evidence-Based Practice I | 1 | 15 | 0 |
| TOTAL | 30 | 346 | 210 |
| (3) FALL TERM II (July–December) | | | |
| PT 600 Physical Therapy in Neurological Disorders II | 4 | 66 | 26 |
| PT 601 Evidence-Based Practice II | 1 | 15 | 0 |
| PT 602 Service Learning in Physical Therapy I | 1 | 15 | 0 |
| PT 603 Clinical Internship I | 2 | 200 Clinic | |
| PT 604 Pharmacology in Physical Therapy | 1 | 30 | 0 |
| PT 605 Physical Therapy in Orthopedics II | 4 | 42 | 32 |
| PT 607 Physical Therapy in Cardiopulmonary Disorders | 2 | 20 | 10 |
| PT 614 Health and Wellness | 3 | 45 | 0 |
| TOTAL | 18 | 233 | 68 |
| (4) SPRING TERM II (January - June) | | | |
| PT 613 Physical Therapy in Geriatrics | 2 | 33 | 2 |
| PT 623 Clinical Internship II | 2 | 200 Clinic | |
| PT 624 Physical Therapy in Neurological Disorders III | 4 | 46 | 16 |
| PT 625 Evidence Based Practice III | 1 | 15 | 0 |
| PT 626 Service Learning in Physical Therapy | 1 | 15 | 0 |
| PT 629 Physical Therapy in Orthopedics III | 4 | 45 | 35 |
| PT 633 Clinical Procedures II | 2 | 20 | 30 |
| TOTAL | 16 | 174 | 83 |

| (5) FALL TERM III (July - December) | Credit Hrs | Lect Hrs | Lab Hrs |
|--|-------------------|-----------------|----------------|
| PT 622 Prosthetics and Orthotics | 3 | 35 | 26 |
| PT 627 Selected Topics in Physical Therapy | 1 | 15 | 0 |
| PT 638 Administration in Physical Therapy | 4 | 60 | 0 |
| PT 701 Clinical Procedures III | 1 | 12 | 10 |
| PT 702 Clinical Internship III | 4 | 320 Clinic | |
| PT 703 Physical Therapy in Integumentary Disorders | 2 | 20 | 12 |
| PT 704 Physical Therapy in Pediatrics | 4 | 60 | 30 |
| PT 708 Differential Diagnosis in Physical Therapy | 3 | 30 | 2 |
| PT 709 Evidence-Based Practice IV | 1 | 15 | 0 |
| TOTAL | 23 | 247 | 80 |

| (6) SPRING TERM III (January - June) | Credit Hrs | Lect Hrs | Lab Hrs |
|---|-------------------|-----------------|----------------|
| PT 706 Clinical Internship IV | 6 | 320 Clinic | |
| PT 707 Clinical Internship V | 8 | 320 Clinic | |
| TOTAL | 14 | | |

ELECTIVES (Term and courses vary)* 3

TOTAL HOURS FOR CURRICULUM 125

**Students enrolled in the entry-level Doctor of Physical Therapy program are required to complete at least one three credit hour elective. Electives are selected from courses in the MSPT and ScDPT programs. A listing of the available courses will be provided to students during the spring term of the second year of the program and the fall term of the third year of the program.*

Attendance Requirement

Physical therapy students are expected to attend all scheduled classes, laboratory sessions, and clinical internship assignments. In cases of illness or emergency, the student must notify the individual faculty members whose classes the student will miss, or the clinical instructor of the affiliation site no later than 8:30AM of the day of absence. Appointments for health services should not be made during scheduled class time.

Health Requirements

Physical therapy students are required to be immunized against the Hepatitis B virus and to have an annual skin test for Tuberculosis. Some clinical education sites require affiliating physical therapy students to have one or more of the following: rubella titer or vaccine, general physical examination, influenza vaccine; updated tetanus, diphtheria, whooping cough vaccines. Information about meeting these requirements is provided during orientation.

Student Professional Organization Membership

Physical therapy students qualify for student membership in the American Physical Therapy Association and Tennessee Physical Therapy Association. Students are required to participate as student members in the professional association.

Accreditation

The DPT program at the UTHSC is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, Virginia, 22314; telephone: 703-706-3245; email: accreditation@apta.org; website: <http://www.capteonline.org>.

Grading

All courses in each term must be passed before the student is allowed to progress to the next term. The point-grade conversion scale used for all courses is as follows:

| | |
|----|--------|
| A | 92-100 |
| B+ | 89-91 |
| B | 83-88 |
| C+ | 80-82 |
| C | 75-79 |

Less than 75 in a course is a failing grade of "F."

Quality points used to calculate the GPA are assigned as follows:

| | |
|----|------|
| A | 4.0 |
| B+ | 3.33 |
| B | 3.0 |
| C+ | 2.33 |
| C | 2.0 |

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations

Progress and Promotions Policy

Each term, the faculty who taught each class of students during that term meet as a Progress and Promotions Committee for that class of students.

- a. In order to progress to the next term in good standing, students must maintain a GPA of 3.0 on a 4.0 scale. If a student's GPA for that term drops below 3.0, the Progress and Promotions Committee forwards to the Dean of the CAHS a recommendation that the student be placed on probation. During that probation term, student must achieve a GPA of 3.0 or greater. Students may also be required to meet other expectations in order to be removed from probation. While on probation, the student may not participate in clinical internship experiences.
- b. Earning a grade of "F" will result in a recommendation from the Department that the student be dismissed from the program.
- c. A student must demonstrate satisfactory personal and professional behavior deemed by faculty as being necessary for academic success and competency in clinical practice. Such areas may include ability to establish rapport with clients, ability to work and communicate effectively with members of the health care team, dependability, judgment, integrity, initiative, and interest. Failure to meet these requirements may result in the Progress and Promotions Committee's recommending that the student be placed on probation.
- d. According to the CAHS policy, in exceptional circumstances, a student may be allowed to repeat all or part of the curriculum. All earned grades are calculated in the overall GPA.
- e. Students must meet the College and program technical standards to continue in the program and graduate.
- f. In the case of a negative recommendation by the Progress and Promotions Committee, the Dean makes a decision to either accept the recommendation or not. When the Dean decides to uphold the recommendation, her office sends a letter to the student (via encrypted email) to notify the student of the negative decision. If the student is placed on probation, the letter outlines requirements the student must meet in order to be removed from probation.

See College section for recommended actions, notification of students, appeal process, leaves of absence, withdrawal and readmission

Graduation Requirements

The following requirements must be satisfied to earn the degree of Doctor of Physical Therapy:

- a. Satisfactory completion of a minimum of 125 credit hours.
- b. Completion of all coursework with an overall GPA of 2.75 or better. Grades of “C” or above are required in all content area coursework.
- c. Students must earn a “P” in all clinical internship experiences.
- d. Student must demonstrate satisfactory professional and personal behavior.
- e. Students must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.

Honors

The criteria for graduation honors designation in the DPT programs include:

- **Highest honors:** Those students whose overall grade point averages are among the highest 10% of the class.
- **High honors:** Those students whose overall grade point averages are among the next highest 10% of the class.

Scholarships for DPT Students

Students who are residents of Tennessee are given priority in selection for scholarships. Scholarship requirements are included in the general college section of the catalog.

- **Chancellor’s Scholarship**
- **Ann Craig Scholarship**
- **Physical Therapy Alumni and Friends Scholarship**

Awards to students in the entry-level DPT program

Outstanding Physical Therapy Student Award

This award, given annually on behalf of academic and clinical physical therapy faculty, is presented to a graduating DPT student in recognition of his/her excellent performance in both classroom and clinical settings.

Margaret and Perry “Stack” Ayers Scholarship Award

The recipient of this award epitomizes the personal and professional qualities valued and cultivated by the faculty of the UTHSC Doctor of Physical Therapy program. This individual demonstrates exceptional interpersonal skills with classmates, faculty and patients, and will be remembered as an exemplary student clinician and model for what the UTHSC DPT program hopes to graduate. This award is given to a graduating DPT student, but not necessarily given annually.

Physical Therapy Faculty Award

As the highest honor physical therapy faculty can bestow on a student, the Faculty Award requires a unanimous vote of the faculty and is given in recognition of outstanding academic and clinical performance, and potential for leadership in the profession of physical therapy. This award is given to a graduating DPT student, but not necessarily given annually.

DOCTOR OF PHYSICAL THERAPY PROGRAM (DPT) - TRANSITION

Pamela D. Ritzline, Ed.D., P.T., Program Director

The transitional Doctor of Physical Therapy (DPT) program was developed in conjunction with the conversion of the Professional Program in Physical Therapy to the DPT in April 2003. The program primarily is designed for graduates from the University who are licensed as physical therapists and who desire to pursue the doctoral degree while employed full-time. Graduates from programs other than UTHSC will be evaluated on an individual basis for entry into the program.

The transitional DPT program is a hybrid program with a mixture of both online and face-to-face classes. The program is comprised of a combination of short course format, independent study, and online instruction. The short course format consists of pre-course work completed independently prior to arrival on campus, 3 full days on campus, and post-course work completed independently. The courses may include assigned readings, videos, CD or DVD presentation, or Internet interactions. Independent study courses are completed with guidance from a faculty advisor. Online courses are completed through Blackboard with assignments due throughout the term as designated by the faculty member.

The transitional DPT program requires completion of 38 credit hours. Completion of a minimum of 25 credit hours beyond the MPT degree is required for graduates from the 3-year MPT program (2001-2006). Graduates from institutions other than UTHSC receive an individualized review of academic coursework and clinical experiences to determine the courses necessary to complete the degree. Most complete the program in approximately 1 -2 years while employed in a clinical or academic setting.

Graduates from the BSPT program at UTHSC or any other physical therapy program are required to complete a minimum of 38 credit hours. Completion of additional coursework may be necessary based on an assessment of the physical therapy educational coursework completed and professional experiences. The assessment involves an individualized review of the applicant's transcripts and portfolio. Coursework completed at another university must have been completed within 7 years of admission to the doctoral program. Coursework older than 7 years may be validated by contemporary practice that demonstrates ongoing competency with the content.

Applications for the transitional DPT program are accepted on a rolling basis. Academic schedules vary based on an individual degree plan determined by review of previous course work and portfolio credit. A maximum of 5 years from entrance into the transitional DPT program is allowed for completion of the degree requirements.

POSTPROFESSIONAL PROGRAMS IN PHYSICAL THERAPY (MSPT and ScDPT)

Pamela D. Ritzline, E.d.D, P.T., Program Director

The Department of Physical Therapy offers post-professional graduate studies for licensed physical therapists that lead to either the Master of Science in Physical Therapy (MSPT) or Doctor of Science in Physical Therapy (ScDPT) degree. The programs provide the opportunity to: 1) select a specialized area of physical therapy practice; 2) develop an advanced level of clinical competence for leadership in practice; 3) develop a research base for the analysis of the physical therapy profession's scientific body of knowledge and for developing clinically oriented research techniques; 4) and develop skill in teaching in entry-level educational, clinical, continuing, and public educational programs.

The postprofessional programs are designed for part-time or full-time students. All students develop a plan of study in conjunction with the program director. Each plan of study includes required core courses in physical therapy theory, education, and research as well as a clinical concentration in either musculoskeletal or neurological physical therapy. Each student selects a clinical area of concentration. All degree requirements for the Master of Science in Physical Therapy must be completed within 5 years of the date of initial enrollment. Degree requirements for the Doctor of Science in Physical Therapy must be completed within 7 years of the date of initial enrollment.

Admission Requirements

1. Proof of Physical Therapy license in the United States.
2. Proof of at least three months physical therapy clinical experience post-graduation.
3. A transcript of the physical therapist educational program providing proof of graduation from an education program accredited by an agency approved by the US Department of Education (currently the Commission on Accreditation in Physical Therapy Education).
4. Resume.
5. Two references from clinical colleagues (one of whom is a supervisor).
6. Statement of personal goals.
7. Portfolio ([if credit is being requested by portfolio review](#)).

Requirements for Graduation

The following requirements must be satisfied to earn the degree of Master of Science in Physical Therapy (MSPT):

1. Satisfactory completion of 36 semester credit hours of work, which must include 16 hours of core courses, 12-15 hours in a clinical concentration and 5-8 hours of electives.
2. Students must earn a minimum grade of "B" in all coursework.
3. Satisfactory completion ("Pass") of either PT863 Thesis (minimum of 4 semester credit hours) or completion of a research project and submission of a publishable manuscript to an appropriate peer-reviewed publication.
4. Admission to candidacy for the master's degree. A student files an application for admission to candidacy when conditions above have been fulfilled and the final draft of the thesis or manuscript has been approved by the committee.
5. Students must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.

Attendance at graduation is mandatory. Any student unable to attend commencement must write a letter to the Dean of the College of Allied Health Sciences for permission to graduate in absentia.

The following requirements must be satisfied to earn the degree of Doctor of Science in Physical Therapy (ScDPT):

1. Satisfactory completion of 92 semester credit hours of work, which must include 47 hours of core courses, 13-14 hours in a clinical concentration and 32-34 hours of electives.
2. Students must earn a minimum grade of "B" in all coursework.
3. Satisfactory completion ("Pass") of a research project and submission of a publishable manuscript are required prior to graduation.
4. Students must discharge all financial obligations to the University and remove all deficiencies documented by the Registrar.

Attendance at graduation is mandatory. Any student unable to attend graduation must write a letter to the Dean of the College of Allied Health Science for permission to graduate in absentia.

Curriculum Summary for Master of Science in Physical Therapy (MSPT)

Core Courses (16 SH Required)

| | Credit Hours |
|--|-----------------|
| PT 813 Educational Theory and Methods | 3 |
| PT 860 Biostatistics for Physical Therapists | 3 |
| PT 861 Research Design | 3 |
| PT 881 Health Care Management and Policy | 3 |
| PT 863 Thesis or Research Project | 2 ³⁴ |

Musculoskeletal Concentration (12-15 SH required)

| | Credit Hours |
|---|--------------|
| PT 803 Theoretical Bases of Orthopaedic PT ³⁵ | 3 |
| PT 804 Orthopaedic Clinical Medicine Seminar ³⁶ | 3 |
| PT 890 Cervicogenic Headaches and Temporomandibular dysfunction | 3 |
| PT 896 Musculoskeletal Evaluation/Treatment of Spine | 3 |
| PT 897 Musculoskeletal Evaluation/Treatment of Extremities | 3 |
| PT 914 Imaging for Physical Therapists | 3 |
| PT 898 Musculoskeletal Evaluation/Treatment of Upper Quarter | 3 |
| PT 899 Musculoskeletal Evaluation/Treatment of Lower Quarter | 3 |

Neurological Concentration (12-15 SH required)

| | Credit Hours |
|---|--------------|
| PT 812 Advanced Neuro. PT Techniques ³⁷ | 3 |
| PT 900 Issues in Motor Control and Motor Learning ³⁸ | 3 |
| PT 895 Sensory Integration and Perceptual Motor Disorders ³⁹ | 3 |
| PT 811 Evaluative Procedures in Pediatric PT | 3 |
| PT 814 School-Based Physical Therapy | 3 |
| PT 810 Issues in the NICU | 3 |
| PT 816 Complex Practice Issues in Pediatrics | 3 |
| PT 817 Cardiopulmonary Care for Adults with Neurological Disabilities | 3 |

Total hours required for degree **36**

³⁴ Students take PT863 twice over the course of two terms, thus for a total of 4 SHs

³⁵ Required coursework for Musculoskeletal Concentration

³⁶ Required coursework for Musculoskeletal Concentration

³⁷ Required for Adult Neurological concentration

³⁸ Required for both Adult Neurological and Pediatric Neurological concentrations

³⁹ Required for Pediatric Neurological concentration

Curriculum Summary for the Doctor of Science in Physical Therapy (ScDPT)

| Core Courses (47 credit hours required) | Credit Hours |
|--|---------------------|
| PT 813 Education Theory and Methods | 3 |
| PT 860 Biostatistics for Physical Therapists | 3 |
| PT 861 Research Design | 3 |
| PT 881 Health Care Management and Policy | 3 |
| PT 902 Clinical Science Seminar I | 3 |
| PT 903 Clinical Residency Seminar | 1 |
| PT 905 Clinical Science Seminar II | 3 |
| PT 907 Clinical Residency I | 8 |
| PT 908 Complex Clinical Management I | 3 |
| PT 909 Clinical Outcomes Project I | 3 |
| PT 910 Clinical Residency II | 8 |
| PT 911 Complex Clinical Management II | 3 |
| PT 912 Clinical Outcomes Project II | 3 |

The following electives are offered for the Postprofessional Programs

| Course Name | Credit Hours |
|---|---------------------|
| PT 814 School-Based Physical Therapy | 3 |
| PT 810 Issues in the NICU | 3 |
| PT 816 Complex Practice Issues in Pediatrics | 3 |
| PT 817 Cardiopulmonary Care for Adults with Neurological Disabilities | 3 |
| PT 851 Spanish for Physical Therapists | 3 |
| PT 871 Balance Disorders | 3 |
| PT 875 Human Gait and Disorders | 3 |
| PT 890 Cervicogenic Headaches and Temporomandibular Dysfunction | 3 |
| PT 891 Applied Skeletal Ms. Physiology | 3 |
| PT 894 Dissection Anatomy | 3 |
| PT 831 Assistive Technology for Clients with Disabilities | 3 |
| PT 833 Professional and Ethical Issues | 2 |
| PT 898 Musculoskeletal Eval and Treatment of Upper Quarter | 3 |
| PT 899 Musculoskeletal Eval and Treatment of Lower Quarter | 3 |
| PT 901 Cultural Diversity | 3 |
| PT 904 Health Communication: Counseling Patients and Personnel | 3 |
| PT 906 Age, Exercise & Rehabilitation | 3 |
| PT 913 Special Topics: Women's Health | 3 |
| PT 913 Special Topics: Wound Care | 3 |
| PT 913 Special Topics: Pediatric Oncology | 3 |
| PT 914 Imaging for Physical Therapist | 3 |
| PT 862 Practicum | 3,4 |

Total hours required for degree **92**

PHYSICAL THERAPY ORTHOPAEDIC CLINICAL RESIDENCY PROGRAM

Pamela D. Ritzline, Ed.D., P.T., Program Director

The physical therapy orthopaedic clinical residency program is a planned program of postprofessional clinical and didactic education for licensed physical therapists designed to substantially advance expertise in orthopaedic physical therapy clinical practice with clinical mentoring and supervision. Residents are graduates from an entry-level Doctor of Physical Therapy program, accredited by the Commission on Accreditation in Physical Therapy Education, with license to practice as physical therapists in Tennessee. Residents complete a minimum of 1500 didactic and clinical hours over a 12 month period and are prepared to take the Orthopaedic Certified Specialist examination at the completion of the program.

The program starts July 1 and ends the following June 30. Application materials are available each year November 1 and due January 15 of the same year the applicant is seeking admission. Admission decisions are finalized by mid-March. Applicants provide demographic information, a personal statement, three (3) completed recommendation forms, a resume/curriculum vitae, proof of APTA membership, copy of physical therapist license, proof of CPR certification, immunization record, completed continuing education form, transcripts from physical therapy program, proof of health insurance, and resident contact information.

For more information about specific requirements of the residency, contact Dr. Pamela Ritzline.

COURSE DESCRIPTIONS

- ANAT 511 Gross Anatomy for Physical Therapists** *Credit: 6 (60/60)* Grade except where noted Study of the gross structure of the human body focusing on the musculoskeletal and cardiovascular systems. Dissection of cadaver supplemented by Lecture. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Fall Term I DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Joseph Callaway (Spring).
- PT 500 Basic Pathology for Physical Therapists** *Credit: 2 (30/0)* Study of inflammation and repair, infectious and neoplastic disease, and immunologic responses. Students learn pathology incidence, etiology, pathogenesis, and medical management. Emphasis on cardiovascular, integumentary, musculoskeletal, and nervous system disorders encountered in physical therapy. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* Admission to UTHSC DPT Program *Offered:* Fall. *Instructor of Record:* Dr. Pamela Ritzline (Fall).
- PT 501 Principles of Research** *Credit: 3 (45/0)* Introduction to basic research concepts and statistical analyses. Students learn to design and implement a research project and analyze data for hypothesis testing. Clinical, educational, and administrative topics are explored. Emphasis on creating critical consumers of professional literature. *Mode of delivery:* Didactic. *Pre-Requisites:* Admission to UTHSC DPT Program *Offered:* Fall. *Instructor of Record:* TBD (Spring).
- PT 502 Neurobiology for Physical Therapists** *Credit: 3 (45/0)* Basic structure and function of the central, peripheral, and autonomic nervous systems. Includes clinical applications. *Mode of delivery:* Didactic. *Pre-Requisites:* Admission to UTHSC DPT Program *Offered:* Fall. *Instructor of Record:* Dr. Richard Kasser (Fall).
- PT 505 Fundamentals of Physical Therapy** *Credit: 2 (20/96)* Introduction to basic care skills including the use of medical terminology, patient positioning, management of basic medical equipment, wheelchair management, aseptic technique, assessment of vital signs, passive range of motion, transfer training, gait training, and documentation. Information on ADA and architectural barriers is presented. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Admission to UTHSC DPT Program *Offered:* Fall. *Instructor of Record:* Dr. Ann Coleman (Fall).
- PT 506 Psychosocial Aspects of Physical Therapy** *Credit: 3 (46/0)* Module one: includes effective communication, principles of education, conflict management, stress management, assertiveness, and introduction to communicating with clients who speak Spanish. Module two: addresses the patient and family in the health care system, including sexuality, impact of disability, addictive behaviors, grief processes, death and dying, children's reactions to illness, HIV/AIDS, and selected counseling techniques. *Mode of delivery:* Didactic. *Pre-Requisites:* Admission to UTHSC DPT Program *Offered:* Fall. *Instructor of Record:* Dr. Ruth Mulvany (Fall).
- PT 510 Applied Exercise Physiology for Physical Therapists** *Credit: 3 (46/12)* Basic concepts of exercise physiology including response of pulmonary, cardiovascular, neuromuscular and endocrine systems to exercise. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Admission to UTHSC DPT Program *Offered:* Fall. *Instructor of Record:* Dr. Richard Kasser (Fall).
- PT 514 Clinical Procedures I** *Credit: 3 (30/40)* Theoretical basis and application of physical agents including cryotherapy, thermotherapy, ultrasound, hydrotherapy, electromagnetic radiation, and intermittent pneumatic compression. Includes introduction to massage. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Admission to UTHSC DPT Program *Offered:* Fall. *Instructor of Record:* Dr. Judy Clifft (Fall).
- PT 520 Introduction to Therapeutic Exercise** *Credit: 3 (20/22)* Principles of therapeutic exercise to promote strength, flexibility and function. Concepts applied to rehabilitation for impairments, pain, and movement disorders as well as for health and wellness. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Fall Term I DPT courses *Offered:* Spring. *Instructor of Record:* Professor Penny Head (Spring).

- PT 522** **Physical Therapy in Neurological Disorders I** *Credit: 4 (45/52)* Physical therapy examination and assessment of adult neuromotor disorders. Evidence based practice of various tools and measurements. Concepts and theories of motor control, motor development and motor learning are introduced. Includes medical diagnostic procedures. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Fall Term I DPT courses *Offered:* Spring. *Instructor of Record:* Professor Roberta Gatlin (*Spring*).
- PT 523** **Physical Evaluation Procedures** *Credit: 5 (45/60)* Basic skills utilized to evaluate the musculoskeletal and neuromuscular systems. Development of palpation skills, active and passive range of motion assessment, goniometry, posture evaluation, gait evaluation, girth measurements, manual muscle testing, and neurological screening. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Fall Term I DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Ruth Mulvany (*Spring*).
- PT 525** **Applied Pathology** *Credit: 3 (45/0)* Physicians and clinical specialists cover general medical and orthopedic concepts including: oncology, infectious disease, laboratory values, trauma, inflammatory and non-inflammatory joint and connective tissue conditions, and pediatric and congenital disorders. Emphasis on medical and surgical management. *Mode of delivery:* Didactic. *Pre-Requisites:* Successful completion of Fall Term I DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Pamela Ritzline (*Spring*).
- PT 526** **Kinesiology/Pathokinesiology** *Credit: 4 (65/0)* Fundamental biomechanical and kinesiological principles, including kinematics and kinetics, of human movement related to anatomical and neuroanatomical structures under normal and pathological conditions. Includes structure and function of human musculoskeletal system, biomechanics, and movement analysis of human motion. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Fall Term I DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Audrey Zucker-Levin (*Spring*).
- PT 528** **Physical Therapy in Orthopedics I** *Credit: 3 (36/16)* Orthopedic management principles for chronic, rheumatologic, post-operative, and skeletal impairments. Application of therapeutic exercises, assistive devices, thermal and acoustic modalities, and soft tissue mobilization techniques. Emphasis on clinical impairment identification and prioritization, plan of care development, and treatment delivery. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Fall Term I DPT courses *Offered:* Spring. *Instructor of Record:* Professor Penny Head (*Spring*).
- PT 529** **Fundamentals of Imaging for Physical Therapists** *Credit: 1 (15/0)* Overview of the fundamentals of diagnostic imaging and the role of imaging in physical therapy. *Mode of delivery:* Didactic. *Pre-Requisites:* Successful completion of Fall Term I DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Pamela Ritzline (*Spring*).
- PT 530** **Evidence-Based Practice I** *Credit: 1 (15/0)* Pass/Fail Introduction to evidence-based practice (EBP). Includes formulating clinical questions, searching evidence-based resources, appraising evidence, and applying evidence to practice. *Mode of delivery:* Didactic and independent project. *Pre-Requisites:* Successful completion of Fall Term I DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Judy Clifft (*Spring*).
- PT 600** **Physical Therapy in Neurological Disorders II** *Credit: 4 (66/26)* Pathophysiology, clinical manifestations, and management of selected adult upper motor neuron disorders including cerebrovascular accidents, brain injuries, disorders of the basal ganglia and cerebellum, and central nervous system infections and tumors. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Spring Term I DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Ann Coleman (*Fall*).
- PT 601** **Evidence-Based Practice II** *Credit: 1 (15/0)* Pass/Fail Faculty-mentored group activities to develop evidence-based plan of care for patients/clients seen during Clinical Internship I. *Mode of delivery:* Didactic and independent project. *Pre-Requisites:* Successful completion of Spring Term I DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Judy Clifft (*Fall*).

- PT 602** **Service Learning in Physical Therapy I** *Credit: 1 (15/0)* Pass/Fail Active participation in a service project organized with community partners. *Mode of delivery:* Didactic and independent project. *Pre-Requisites:* Successful completion of Spring Term I DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Carol Likens (Fall).
- PT 603** **Clinical Internship I** *Credit: 2 (200 Clinic)* Pass/Fail Five weeks of supervised clinical experience in selected physical therapy settings with emphasis on developing professional behaviors in the clinical environment. Observation in all areas of patient care and participation in developing physical therapy skills in areas in which the student has completed the required coursework. *Mode of delivery:* Clinical practice. *Pre-Requisites:* Successful completion of Spring Term I DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Marie Hatten (Fall).
- PT 604** **Pharmacology in Physical Therapy** *Credit: 1 (30/0)* Grade Overview of drug administration, absorption, distribution, and elimination. Includes introduction to pharmacology of the CNS, ANS, cardiovascular system, and endocrine system; drugs affecting skeletal muscle; drugs used to treat pain and inflammation; and chemotherapy. *Mode of delivery:* Independent study. *Pre-Requisites:* Successful completion of Spring Term I DPT courses *Offered:* Fall. *Instructor of Record:* Joshua Allen, Pharm.D. (Fall).
- PT 605** **Physical Therapy in Orthopedics II** *Credit: 4 (42/32)* Physical therapy evaluation of and intervention for non-surgical musculoskeletal dysfunctions of the extremities. Emphasis on manual therapy skill development in lab. Introduction to adult and child sports physical therapy. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Spring Term I DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Susan Appling (Fall).
- PT 607** **Physical Therapy in Cardiopulmonary Disorders** *Credit: 2 (20/10)* Management of individuals with cardiovascular and pulmonary dysfunction. Includes medical/surgical management and emphasizes physical therapy management. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* Successful completion of Spring Term I DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Ethel Frese (Fall).
- PT 609** **Professional, Ethical, and Supervisory Issues** *Credit: 2 (30/0)* Discussions of current issues that affect the practice of physical therapy. Concepts of professionalization with emphasis on history and development of physical therapy. Learning experiences include delegation and supervision of patient care activities; legal and regulatory parameters of physical therapy practice; safe, ethical, and legal practice. *Mode of delivery:* Didactic. *Pre-Requisites:* Admission to UTHSC DPT Program *Offered:* Fall. *Instructor of Record:* Dr. Pamela Ritzline (Fall).
- PT 613** **Physical Therapy in Geriatrics** *Credit: 2 (33/2)* Designed to facilitate understanding of older adults and their special needs and to promote concepts of successful aging based on physical therapy evaluation and intervention. Cognitive impairments, dementia, biological, socioeconomic, and functional changes due to aging will be discussed. *Mode of delivery:* Didactic. *Pre-Requisites:* Successful completion of Fall Term II DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Ruth Mulvany (Spring).
- PT 614** **Health and Wellness** *Credit: 3 (45/0)* Includes health promotion, health education, and models for behavior change. Health and wellness programs presented with emphasis on intervention, prevention, and promotion of health, wellness and fitness across the lifespan. Focus on Healthy People 2020. *Mode of delivery:* Didactic. *Pre-Requisites:* Successful completion of Spring Term I DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Susan Appling (Fall); Dr. Susan Appling (Spring).
- PT 622** **Prosthetics and Orthotics** *Credit: 3 (35/26)* Upper and lower extremity prosthetics and orthotics, spinal orthotics, assistive technology, wheelchair design and adaptive seating. Options, components, assessment, measurement, prescription, management and patient instruction. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Spring II DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Audrey Zucker-Levin (Fall).

- PT 623** **Clinical Internship II** *Credit: 2 (200 Clinic)* Pass/Fail Five weeks of supervised clinical experience in selected physical therapy settings. Observation in all areas of patient care and participation in developing physical therapy skills in areas in which the student has completed the required coursework. *Mode of delivery:* Clinical practice. *Pre-Requisites:* Successful completion of Fall Term II DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Marie Hatten (*Spring*).
- PT 624** **Physical Therapy in Neurological Disorders III** *Credit: 4 (46/16)* Pathophysiology, clinical manifestations, examination and management of pediatric and adult neuromuscular disorders including congenital and traumatic spinal cord injuries, motor neuron diseases, myopathies and selected neuropathies using a multidisciplinary approach. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Fall Term II DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Ann Coleman (*Spring*).
- PT 625** **Evidence-Based Practice III** *Credit: 1 (15/0)* Pass/Fail Faculty-mentored group activities to develop evidence-based plan of care for patients/clients seen during Clinical Internship II. *Mode of delivery:* Didactic independent project. *Pre-Requisites:* Successful completion of Fall Term II DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Judy Clifft (*Spring*).
- PT 626** **Service Learning in Physical Therapy II** *Credit: 1 (15/0)* Pass/Fail Active participation in a service project organized with community partners. *Mode of delivery:* Independent project. *Pre-Requisites:* Successful completion of Fall Term II DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Carol Likens (*Spring*).
- PT 627** **Selective Topics in Physical Therapy** *Credit: 1 (15/0)* Physical therapy management of selected populations and introduction to special procedures. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Spring term II DPT courses. *Offered:* (not currently offered).
- PT 629** **Physical Therapy in Orthopedics III** *Credit: 4 (45/35)* Physical therapy evaluation and intervention for musculoskeletal dysfunctions of the spine and trunk. Emphasis on manual therapy skills development. Topics also include TMJ dysfunction, industrial physical therapy, and sacroiliac dysfunction. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Fall Term II DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Susan Appling (*Spring*).
- PT 633** **Clinical Procedures II** *Credit: 2 (20/30)* Theoretical basis and application of electrotherapy for motor response, pain control, and tissue repair. Includes use of NMES, FES, TENS, IFC, RC, HVPC and iontophoresis. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Fall Term II DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Judy Clifft (*Spring*).
- PT 637** **Issues in Women's Health** *Credit: 1* Women's health issues from adolescence to post-menopause. Common problems encountered during pregnancy and post-partum as well as a variety of gynecological disorders. Self-care and preventive strategies are included. *Offered:* Fall. *Instructor of Record:* Dr. Marie Hatten (*Fall*).
- PT 638** **Administration in Physical Therapy** *Credit: 4 (60/0)* Topics include organizational theory and structure, personnel recruitment and retention, planning, policies and procedures, quality assurance, risk management, cost analyses, budgeting, marketing, regulation and public health policy. *Mode of delivery:* Didactic. *Pre-Requisites:* Successful completion of Spring Term II DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Carol Likens (*Fall*).

- PT 639** **Section 001 Sports PT** *Credit: 3-4 (45-60/8)* Lecture and Lab instruction in patient/client management of the injured athlete, including examination, evaluation, diagnosis, prognosis, intervention and outcomes. Topics include emergency medical care of the athlete; taping; pre-season screening; common orthopedic, medical, dermatologic and infectious diseases of the athlete; and the roles of the physical therapist and athletic trainer on the sports medicine team.
This course is designed as a three (3) credit hour graduate level course providing students the opportunity to explore current trends in clinical sports medicine practice. Mastery of psychomotor skills as well as didactic learning is expected. Course content will define the role of the Physical Therapist on the sports medicine team and review research as it applies to evaluation and treatment of sports-related injuries with an emphasis on orthopedic rehabilitation. Components of the course will include video demonstrations of current orthopedic surgical techniques; case study presentations with discussions of continuum of care from triage to return to sport; exploration of research supporting current trends in non-operative and post-operative sports medicine rehabilitation; and discussion of the realistic financial/practice building potential of providing sports medicine community outreach services. *Mode of delivery:* Lecture and Lab. *Pre-Requisites:* Successful completion of Spring Term II DPT courses *Offered:* Fall, Spring.
- PT 639** **Section 002 Sports PT** *Credit:* Lecture and Lab instruction in patient/client management of the injured athlete, including examination, evaluation, diagnosis, prognosis, intervention and outcomes. Topics include emergency medical care of the athlete; taping; pre-season screening; common orthopedic, medical, dermatologic and infectious diseases of the athlete; and the roles of the physical therapist and athletic trainer on the sports medicine team.
This course is designed as a three (3) credit hour graduate level course providing students the opportunity to explore current trends in clinical sports medicine practice. Mastery of psychomotor skills as well as didactic learning is expected. Course content will define the role of the Physical Therapist on the sports medicine team and review research as it applies to evaluation and treatment of sports-related injuries with an emphasis on orthopedic rehabilitation. Components of the course will include video demonstrations of current orthopedic surgical techniques; case study presentations with discussions of continuum of care from triage to return to sport; exploration of research supporting current trends in non-operative and post-operative sports medicine rehabilitation; and discussion of the realistic financial/practice building potential of providing sports medicine community outreach services.
Students enrolled in Section II will also complete American Red Cross Sport Safety Certification Training and instruction in athletic taping/strapping; and a field experience (externship) with a licensed Physical Therapist or Athletic Trainer covering a minimum of 5 community sporting events. *Mode of delivery:* Lecture and Lab. *Offered:* Fall.
- PT 642** **Anatomy Special Topics** *Credit: 3* Pass/Fail Offered as an elective to second year students enrolled in the DPT program. Students serve as lab assistants and tutors in ANAT 511 Gross Anatomy for Physical Therapists. Preparing for and attending class and dissection lab sessions, as well as setting up lab for practical exams, requires a time commitment of 12-14 hours per week for 5 weeks. *Mode of delivery:* Supervised lab instruction. *Pre-Requisites:* Successful completion of ANAT 511 and consent of instructor *Offered:* Spring. *Instructor of Record:* Dr. Richard Kasser (*Spring*).
- PT 701** **Clinical Procedures III** *Credit: 1 (12/10)* Electrical testing procedures used in physical therapy including nerve conduction testing and electromyography. Introduction to biofeedback included. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Spring Term II DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Judy Clifft (*Fall*).
- PT 702** **Clinical Internship III** *Credit: 4 (320 Clinic)* Pass/Fail Eight weeks of supervised clinical experience in selected physical therapy settings with emphasis on developing increased independence and clinical reasoning skills. *Mode of delivery:* Clinical practice. *Pre-Requisites:* Successful completion of Spring Term II DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Marie Hatten (*Fall*).

- PT 703** **Physical Therapy in Integumentary Disorders** *Credit: 2 (20/12)* Emphasis on physical therapy management of patients with open wounds, burns, and dermatologic disorders. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Spring Term II DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Judy Clifft (Fall).
- PT 704** **Physical Therapy in Pediatrics** *Credit: 4 (60/30)* Includes normal child development and childhood conditions, including inborn or acquired, genetic, neurological and orthopedic disorders, followed by physical therapy assessment and interventions. Family, caregiver, social and environmental issues will be discussed. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Successful completion of Spring Term II DPT courses *Offered:* Fall. *Instructor of Record:* Professor Roberta Gatlin (Fall).
- PT 706** **Clinical Internship IV** *Credit: 6 (320 Clinic)* Pass/Fail Eight weeks of supervised clinical experience in selected physical therapy settings with emphasis on developing increased independence and clinical reasoning skills. *Mode of delivery:* Clinical practice. *Pre-Requisites:* Successful completion of Fall Term III DPT Didactics *Offered:* Spring. *Instructor of Record:* Dr. Marie Hatten (Spring).
- PT 707** **Clinical Internship V** *Credit: 8 (320 Clinic)* Pass/Fail Eight weeks of supervised clinical experience in selected physical therapy settings with emphasis on developing increased independence and clinical reasoning skills. *Mode of delivery:* Clinical practice. *Pre-Requisites:* Successful completion of Fall Term III DPT courses *Offered:* Spring. *Instructor of Record:* Dr. Marie Hatten (Spring).
- PT 708** **Differential Diagnosis in Physical Therapy** *Credit: 3 (30/2)* Role of the physical therapist as an autonomous practitioner with emphasis on medical screening and referral. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* Successful completion of Spring Term II DPT courses *Offered:* Fall. *Instructor of Record:* Dr. William Boissonnault (Fall).
- PT 709** **Evidence-Based Practice IV** *Credit: 1 (15/0)* Pass/Fail Evidence-based plan of care developed for a patient/client seen during Clinical Internship III; EBP in- service presented to facility clinicians. *Mode of delivery:* Independent project. *Pre-Requisites:* Successful completion of Spring Term II DPT courses *Offered:* Fall. *Instructor of Record:* Dr. Judy Clifft (Fall).
- PT 710** **PT Research Experience** *Credit: 1-3 (Varies)* Participation in a Faculty-directed research project. Activities may include literature searches, data collection and/or data analysis. Credit hours vary depending on work assignment. *Mode of delivery:* Independent project. May be repeated *Offered:* Offered every term. *Instructor of Record:* Dr. Pamela Ritzline (Spring).
- PT 803** **Theoretical Bases of Orthopedic Physical Therapy** *Credit: 3 (35/10)* Tissue pathology including inflammation and repair and the effects of immobilization and biomechanics applied to the spine relevant to orthopedic physical therapy practice are discussed. These principles provide the foundation for the examination of patients with orthopedic conditions and the selection of appropriate interventions. An examination scheme for the orthopedic patient will be presented with the emphasis on physical therapy differential diagnosis. Selected functional assessment tools commonly utilized in orthopedic physical therapy practice and radiographic imaging of the skeletal system will also be discussed. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* Permission of instructor *Offered:* Spring. *Instructor of Record:* Dr. William Boissonnault (Spring).
- PT 804** **Orthopedic Clinical Medicine Seminar** *Credit: 3 (35/10)* A basic format for orthopedic physical examination is presented in this course and the role of the physical therapist as it interfaces with the role of the physician is discussed. Medical diagnostic testing and medical management of orthopedic dysfunctions and diseases is covered including such topics as radiology, surgical procedures, and pharmacology. Discussion and debate of current theories of both medical and physical therapy management of musculoskeletal dysfunction. *Mode of delivery:* Didactic and lab Hybrid. *Offered:* Fall. *Instructor of Record:* Dr. William Boissonnault (Fall).

- PT 810** **Issues in the NICU** *Credit: 3 (45/0)* Includes evaluating and treating infants in NICU, appropriate standardized testing instruments, and long term issues with NICU graduates. *Mode of delivery:* Didactic and Seminar Hybrid. *Pre-Requisites:* Permission of instructor *Offered:* Fall, Spring. *Instructor of Record:* Professor Roberta Gatlin (Spring).
- PT 811** **Evaluative Procedures in Pediatric Physical Therapy** *Credit: 3 (30/15)* Introduction to measurement theory, including test reliability, validity, and standardization. Normed and criterion referenced tools commonly used in pediatric physical therapy practice are described in detail. Laboratory develops skills in the administration and interpretation of designated physical therapy tests. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* PT 812 or permission of instructor *Offered:* Fall. *Instructor of Record:* Professor Roberta Gatlin (Fall).
- PT 812** **Advanced Neurological Physical Therapy Techniques** *Credit: 3 (30/15)* An advanced course in therapeutic exercise and management procedures used in the treatment of children and adults with nervous system disorders. Current concepts of motor development, motor control, and motor learning are presented. Traditional neurofacilitation approaches are critically examined in order to develop an integrated treatment model. Course materials are applied to assessment and treatment strategies through use of videotapes of children with developmental disabilities and adults with neurological dysfunctions. *Mode of delivery:* Didactic and lab Hybrid. *Offered:* Spring.
- PT 813** **Educational Theory and Methods** *Credit: 3 (45/0)* Includes discussion on planning, implementing, and evaluating the teaching, learning process; educational philosophy and standards; learning theory; curriculum design; course and learning experience planning and evaluation. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Permission of instructor *Offered:* Fall.
- PT 814** **School-Based Physical Therapy** *Credit: 3 (35/10)* Course addresses physical therapy as a related service provided to assist a child with a disability to function within an educational environment. Includes focus on a child's ability to transition as independently as possible in the school environment; participate in classroom and other activities at school; and maintain and change positions in the classroom. *Mode of delivery:* Didactic Online. *Offered:* Fall.
- PT 816** **Complex Practice Issues in Pediatrics** *Credit: 3 (35/10)* Using the framework of ICF and the Guide to Physical Therapist Practice, content includes case studies and discussion of the impact of developmental biomechanics on a child's musculoskeletal system, impact of families on childhood development. Includes working with families of and children with Autism spectrum disorders, Multiple Disabilities, evaluating infants for possible motor delays, and the impact of aging on individuals with developmental disabilities. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* Permission of instructor *Offered:* Fall.
- PT 817** **Cardiopulmonary Care for Adults with Neurological Disabilities** *Credit: 3 (35/10)* Designed to provide knowledge and skills in the evaluation and physical therapy management of individuals with cardiovascular and pulmonary dysfunction and co-morbid neurological disability(ies). The medical and surgical management of individuals with select cardiovascular and pulmonary dysfunction are presented. PT management in the acute care and rehabilitation settings are discussed. Students are expected to interpret and apply clinical lab, diagnostic, pharmacologic, and medical/surgical evaluations from selected cardiovascular and pulmonary dysfunctions as they affect the overall physical therapy plan of care. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall.
- PT 831** **Assistive Technology for Clients with Disability** *Credit: 3 (30/15)* Review of current adaptations available for clients/patients who require assistive technology. Seating, augmentative communication, environmental control and ergonomics are the major topics of concern. Lab sessions apply material to children and adults with disabilities. *Mode of delivery:* Didactic and lab Hybrid. *Offered:* Fall.

- PT 833 Professional and Ethical Issues** *Credit: 2 (30/0)* Discussion of current issues affecting the practice of physical therapy. Emphasis on projected changes in roles of physical therapists; projected changes in health care delivery systems and probable impact on physical therapy; legal and ethical considerations. *Mode of delivery:* Didactic Online. *Offered:* Offered every term.
- PT 851 Spanish for Physical Therapists** *Credit: 3 (40/5)* Elective course. This course is designed to promote communication with clients whose primary language is Spanish with limited English proficiency. The participant will complete the APTA Spanish for Physical Therapists home study program and complete assignments prior to initiating the classroom sessions. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* Permission of instructor *Offered:* Fall. *Instructor of Record:* Dr. Luisa Ramirez de Lynch (Fall).
- PT 860 Biostatistics for Physical Therapists** *Credit: 3 (45/0)* Course encompasses descriptive statistics, estimation, association and prediction, one and two sample hypothesis testing (paired and unpaired situations), ANOVA concepts (one and two factor, mixed designs, ICC). Instruction includes data entry and use of software for statistical analysis using a PC. Analyses of selected clinical research articles are used to illustrate and reinforce theoretical concepts. *Mode of delivery:* Didactic online format Online. *Offered:* Fall.
- PT 861 Research Design** *Credit: 3 (45/0)* Survey of the techniques, methods and tools of research in the behavioral sciences. General discussion of the research process followed by examination of several different research methods. Experimental and quasi-experimental designs; descriptive research techniques. Overview of different methods of data collection, survey of statistical techniques frequently used in physical therapy literature. *Mode of delivery:* Didactic Online. *Offered:* Spring.
- PT 862 Practicum** *Credit: 3, 4 (0/30 or 45 hands-on)* Supervised clinical experience to enable application of knowledge and skills gained from the curriculum within a clinical or educational setting. Practicum settings arranged with UT affiliates. *Mode of delivery:* Clinical practice. *Pre-Requisites:* Consent of program director May be repeated *Offered:* Offered every term.
- PT 863 Thesis** *Credit: 2 (30/0)* Consideration of all facets related to the investigative process; formulation of a problem, search and analysis of literature, developing procedure for collecting data, data analysis; writing thesis proposal and the final thesis. The student must obtain thesis committee approval of the proposal prior to data collection. *Mode of delivery:* Independent project. *Pre-Requisites:* PT 860, Biostatistics for Physical Therapists, and PT 861, Research Design or equivalent coursework May be repeated once up to 4 credit hours *Offered:* Offered every term.
- PT 871 Balance Disorders** *Credit: 3 (40/5)* Assessment and management. Current theories concerning neural control of balance, in health and under pathological circumstances. Analysis of current technology for balance assessment in clinical practice and research settings; includes treatment considerations. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* permission of instructor *Offered:* Fall. *Instructor of Record:* Dr. Martha Hinman (Fall).
- PT 875 Human Gait and Disorders** *Credit: 3 (30/15)* Kinematic and kinetic analysis of normal human gait across the lifespan; contrast with typical patterns of patients having neural dysfunction. Includes assessment methods and management considerations. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* Permission of instructor *Offered:* Spring. *Instructor of Record:* Dr. Audrey Zucker-Levin (Spring).
- PT 881 Health Care Management and Policy** *Credit: 3 (45/0)* Course is designed to provide students with theoretical, didactic, and practical foundations necessary to manage a health care organization. Topics include policies and procedures, quality assurance and risk management, cost analyses and budgeting, marketing, regulation, reimbursement and documentation, ethics/malpractice/negligence, and health care delivery organizations. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Permission of instructor *Offered:* Fall.

- PT 890** **Cervicogenic Headaches and Temporomandibular Dysfunction** *Credit: 3 (30/15)* Course includes Lecture and Lab instruction based on current evidence in examination and treatment techniques used to manage clients with cervicogenic headaches and temporomandibular dysfunction. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* Permission of instructor *Offered:* Fall. *Instructor of Record:* Dr. Brian Bartley (Spring).
- PT 891** **Applied Skeletal Muscle Physiology** *Credit: 3 (45/0)* An analysis of the physiological bases of human movement and physical fitness as well as specific acute and chronic adaptations occurring consequent to various regimens of exercises. Exploration of selected techniques for assessing musculoskeletal function and structure. *Mode of delivery:* Didactic and lab. *Offered:* Fall.
- PT 892** **Advanced Study in Selected Topics** *Credit: 2, 3 (30 or 45/0)* Management of complex patient problems not specifically addressed in other courses. Course content Varies, dependent upon current trends and new perspectives in physical therapy practice. Learning experiences appropriate for students in either neurologic or orthopedic concentrations. *Mode of delivery:* Didactic and lab Hybrid. *Offered:* Fall, Spring. *Instructor of Record:* Dr. Pamela Ritzline (Spring).
- PT 893** **Directed Study** *Credit: 2, 3 (30 or 45/0)* An elective course designed to provide guided independent learning experiences in an area of physical therapy not otherwise available in the curriculum. May be used to prepare for thesis proposal. *Mode of delivery:* Independent study. *Pre-Requisites:* Permission of instructor May be repeated up to 6 *Offered:* Spring. *Instructor of Record:* Dr. Pamela Ritzline (Spring).
- PT 894** **Dissection Anatomy** *Credit: 3 (10/35)* An elective course designed to study the relationships of anatomical structure with the clinical aspects of orthopedics and pediatrics. Each student in the class will lead the discussion and dissection of one assigned anatomical area. The discussion should include current clinical aspects of physical therapy as they relate to structure. Learning experiences appropriate for students in either pediatric or orthopedic concentrations. Limited to 8 students. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Permission of instructor *Offered:* Spring. *Instructor of Record:* Dr. Richard Kasser (Spring).
- PT 895** **Sensory Integrative and Perceptual Motor Disorders** *Credit: 3 (35/10)* Assessment and treatment techniques are presented for the child with sensory integration and perceptual motor deficits and include the areas of muscle tone, postural mechanisms, extraocular control, body imagery, integration of two sides of the body, motor planning, form and space perception, tactile defensiveness, vestibular mechanisms, mixed dominance, and developmental skills. Standardized testing techniques are introduced to facilitate treatment planning. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* Permission of instructor *Offered:* Spring.
- PT 896** **Musculoskeletal Evaluation and Treatment of Spine** *Credit: 3 (30/15)* Instruction in advanced evaluation and treatment techniques used to manage musculoskeletal dysfunctions of the spine and trunk. This course reviews common pathological conditions of the spine and discusses medical as well as physical therapy interventions. The principles of industrial rehabilitation are introduced as well as the development of programs for the prevention of painful spinal dysfunction. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* PT 803, PT 804, or permission of instructor *Offered:* Spring.
- PT 897** **Musculoskeletal Evaluation and Treatment of Extremities** *Credit: 3 (30/15)* Instruction in evaluation and treatment techniques used to manage musculoskeletal dysfunctions of the extremities. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* PT 803, PT 804, or permission of instructor *Offered:* Spring.
- PT 898** **Musculoskeletal Evaluation and Treatment of Upper Quarter** *Credit: 3 (30/15)* Instruction in evaluation and treatment techniques used to manage musculoskeletal dysfunctions of the upper quarter including mid- and upper-thoracic and cervical spine, shoulder and upper extremities. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* PT 803, PT 804, or permission of instructor *Offered:* Spring.

- PT 899 Musculoskeletal Evaluation and Treatment of Lower Quarter** *Credit: 3 (30/15)* Elective course. Lecture and Lab instruction in evaluation and treatment techniques used to manage musculoskeletal dysfunctions of the lower quarter including lower thoracic and lumbar spine, sacrum, hip and lower extremities. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* PT 803, Theoretical Bases of Orthopedic Physical Therapy, PT 804, Orthopedic Clinical Medicine Seminar, or permission of instructor *Offered:* Offered as needed.
- PT 900 Issues in Motor Control and Motor Learning** *Credit: 3 (45/0)* Overview of current research in motor control and motor learning as applied to physical therapy. Focus on applications across the lifespan and to the evidence based practice. Case studies used for application and decision-making. *Mode of delivery:* Didactic and lab Hybrid. *Pre-Requisites:* Permission of instructor *Offered:* Spring. *Instructor of Record:* Dr. Jill Stewart (Spring).
- PT 901 Cultural Diversity Issues and Rehabilitation** *Credit: 3 (45/0)* Introduces students to cultural issues in healthcare and rehabilitation. Students will learn the knowledge, attitudes and skills for enhancing their cross-cultural interactions with patients, families, and colleagues when working in diverse communities. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall.
- PT 902 Clinical Science Seminar I** *Credit: 3 (45/0)* Analysis of the reliability and validity of clinical measurements used in physical therapy practice. Critical review of current clinical efficacy literature; utilizing research in advanced practice. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Permission of instructor *Offered:* Spring. *Instructor of Record:* Dr. Pamela Ritzline (Spring).
- PT 903 Clinical Residency Seminar** *Credit: 1 (15/0)* Objectives for the residency; selecting the residency site. Students encouraged to select community-based, home health, ambulatory settings. *Mode of delivery:* Independent study. *Pre-Requisites:* PT 902 Clinical Science Seminar I *Offered:* Offered every term. *Instructor of Record:* Dr. Pamela Ritzline (Spring).
- PT 904 Health Communication: Counseling Patients and Personnel** *Credit: 3 (45/0)* Emphasizes application of effective communication strategies to achieve quality rehabilitation outcomes, through students' participation in lectures, student presentations and interactive discussion on topics related to communication in the health care field. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* Permission of instructor *Offered:* Fall. *Instructor of Record:* Dr. Ruth Mulvany (Fall).
- PT 905 Clinical Science Seminar II** *Credit: 3 (45/0)* Writing and analysis of case reports for physical therapy. Reviews of single case studies in rehabilitation literature. *Mode of delivery:* Independent project. *Pre-Requisites:* PT 902 Clinical Science Seminar I *Offered:* Offered every term.
- PT 906 Age, Exercise and Rehabilitation** *Credit: 3 (45/0)* Overview of normal physiological responses to exercise in the elderly. Comparison of exercise-induced responses of the various physiological systems throughout the aging process. Focus on the importance of exercise from a rehabilitation perspective. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* Permission of instructor *Offered:* Spring. *Instructor of Record:* Dr. Audrey Zucker-Levin (Fall).
- PT 907 Clinical Residency I** *Credit: 8 (120 project)* A guided practicum with a practitioner-mentor, in which the student learns by experience, example and interaction concerning advanced practice. Experience is arranged to include: Community interaction, interdisciplinary cooperation; patient advocacy; patient empowerment issues; family education; consideration of socioeconomic, societal and cultural issues. (480 hours). *Mode of delivery:* Clinical practice. *Pre-Requisites:* PT 902 Clinical Science Seminar I, PT 903 Clinical Residency Seminar, PT 905 Clinical Science Seminar II, PT 908 Complex Clinical Management *Offered:* Offered every term. *Instructor of Record:* Dr. Pamela Ritzline (Spring).

- PT 908** **Complex Clinical Management I** *Credit: 3 (45/0)* Chronic disease and disability in children and the elderly; orthopedic disorders; the essentials of complex reasoning and clinical decision making. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* PT 902 Clinical Science Seminar I, PT 903 Clinical Residency Seminar, PT 905 Clinical Science Seminar II *Offered:* Offered every term. *Instructor of Record:* Dr. Pamela Ritzline (Spring).
- PT 909** **Clinical Outcomes Project I** *Credit: 3 (45 project)* Students use the principles of clinical research to analyze a practice issue in their residency site and plan an intervention and assess outcome. Student required to complete an outcome project and report in the prescribed written format. *Mode of delivery:* Independent project. *Pre-Requisites:* PT 902 Clinical Science Seminar I, PT 903 Clinical Residency Seminar, PT 905 Clinical Science Seminar II, PT 907 Clinical Residency I, PT 908 Complex Clinical Management *Offered:* Offered every term. *Instructor of Record:* Dr. Pamela Ritzline (Spring).
- PT 910** **Clinical Residency II** *Credit: 8 (120 project)* A guided practicum with a practitioner-mentor, in which the student learns by experience, example and interaction concerning advanced practice. Experience is arranged to include: Community interaction, interdisciplinary cooperation; patient advocacy; patient empowerment issues; family education; consideration of socioeconomic, societal and cultural issues. (480 hours). *Mode of delivery:* Clinical practice. *Pre-Requisites:* PT 902 Clinical Science Seminar I, PT 903 Clinical Residency Seminar, PT 905 Clinical Science Seminar II, PT 907 Clinical Residency I, PT 908 Complex Clinical Management, PT 909 Clinical Outcomes Project I, PT 911 Complex Clinical Management II *Offered:* Offered every term. *Instructor of Record:* Dr. Pamela Ritzline (Spring).
- PT 911** **Complex Clinical Management II** *Credit: 3 (45/0)* Students present two complex clinical cases from their practice; all students respond to and interact concerning appropriate physical therapy care related to patient problems. Management must include: current pathophysiological aspects of the disease/disorder; current medical issues related to medical treatment of the disease/disorder; patient/ family education; community intervention; interdisciplinary interaction; consideration of cultural aspects; prevention and health promotion; and outcome. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* PT 902 Clinical Science Seminar I, PT 903 Clinical Residency Seminar, PT 905 Clinical Science Seminar II, PT 907 Clinical Residency I, PT 908 Complex Clinical Management *Offered:* Offered every term. *Instructor of Record:* Dr. Pamela Ritzline (Spring).
- PT 912** **Clinical Outcomes Project II** *Credit: 3 (45 project)* Students use the principles of clinical research to analyze a practice issue in their residency site, conduct an intervention and assess outcome. Student required to complete an outcome project and report in the prescribed written format. *Mode of delivery:* Independent project. *Pre-Requisites:* PT 902 Clinical Science Seminar I, PT 903 Clinical Residency Seminar, PT 905 Clinical Science Seminar II, PT 907 Clinical Residency I, PT 908 Complex Clinical Management, PT 909 Clinical Outcomes Project I, PT 911 Complex Clinical Management II, PT 910 Clinical Residency II *Offered:* Offered every term.
- PT 913** **Special Topics in Physical Therapy** *Credit: 1-3 (15-45/0)* Selected topics in physical therapy presented. Examples of topics include pediatric oncology, wound care, and women's health. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Permission of instructor May be repeated up to 6 *Offered:* Spring.
- PT 914** **Imaging for Physical Therapists** *Credit: 3 (25/10)* Introduction to the fundamentals of musculoskeletal imaging. Course presents capabilities and limitations of the different imaging modalities, information given in a radiologist's report, instruction and practice in independent viewing of images. Intended to assist clinician in correlating imaging findings to clinical findings to result in more comprehensive patient evaluations, more specific treatment plans, and better patient outcomes. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* Permission of instructor *Offered:* Fall. *Instructor of Record:* Dr. Brian Bartley (Fall).

PHYSICIAN ASSISTANT STUDIES

Johnna Tanner, MSPAS, PA-C, Department Chair and Program Director

(901) 448-8000

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The Department of Physician Assistant Studies offers one degree program: the Master of Medical Science-Physician Assistant. The University of Tennessee Health Science Center Physician Assistant Program is matriculating its first class in January, 2014.

Academic Calendar for Physician Assistant Program

| Date | Activity | Class |
|---|--|------------|
| Friday November 1, 2013 | Spring Registration Begins | |
| Spring 2014 | | |
| Thursday, January 2, 2014 | Tuition and Fees Due | PA 1 |
| Monday, January 6, 2014 | Orientation/Classes Begin | PA 1 |
| <i>Monday, January 20, 2014</i> | <i>University Holiday (offices closed)</i> | <i>all</i> |
| Monday, March 17 – Friday, March 22, 2014 | Spring Break | PA1 |
| Tuesday, April 1, 2014 | Summer 1 registration begins | |
| <i>Friday, April 18, 2014</i> | <i>Spring Holiday (offices closed)</i> | <i>all</i> |
| Friday, May 23, 2014 | Last day of classes | |
| <i>Monday, May 26, 2014</i> | <i>Memorial Day (offices closed)</i> | <i>all</i> |
| Friday, May 30, 2014 | Last day of final exams | |
| Summer 2014 | | |
| Monday June 2, 2014 | First day of Summer Classes | PA 1 |
| Monday June 30 – Friday, July 4, 2014 | Summer Break | PA 1 |
| <i>Friday July 4, 2014</i> | <i>Independence Day (offices closed)</i> | <i>all</i> |
| Friday August 8, 2014 | Summer Classes End | PA 1 |

MASTER OF MEDICAL SCIENCE-PHYSICIAN ASSISTANT PROGRAM

Mission of the Physician Assistant Program

The mission of the Physician Assistant program is to prepare a diverse group of highly skilled Physician Assistant practitioners who are dedicated to improving access and providing high quality primary and/or specialty health care as part of interprofessional teams and who are committed to lifelong learning and to increasing the knowledge base of the profession.

Goals of the Physician Assistant Program:

- To provide a high quality education, consistent with professional standards and expectations.
- To provide students the opportunity to become educated with a comprehensive background in primary and specialty care medicine such that they improve access to healthcare.
- To provide students the opportunity to become educated with a background in research and scholarship such that they will become lifelong learners who contribute to advancing the knowledge of the profession.
- To model true professionalism as the expression of positive values and ideals as care is being delivered.

Admission Requirements

To be eligible for consideration for admission, applicants must fulfill the requirements listed below. Meeting the minimum requirements does NOT assure admission to the Master of Medical Science Physician Assistant program.

1. A baccalaureate degree and all prerequisite courses must be completed prior to enrollment, with a minimum cumulative grade point average of 2.75 on a 4.00 scale and a minimum cumulative science grade point average of 2.75 on a 4.0 scale. Grades of "D" in required courses are not acceptable. Experience has shown that generally a cumulative GPA of at least 3.00 must be presented for an applicant to be competitive.
 - a. If a required course is repeated, both grades are calculated into the cumulative GPA, but the credit hours assigned to the course may be counted only once in fulfilling the required number of hours.
 - b. Credit hours earned for non-theory courses in physical education, music, and military science are not accepted in fulfillment of prerequisite hours or as elective hours.
 - c. Credit for science courses completed more than five years prior to application will be carefully reviewed by the Admissions Committee and may not be accepted in fulfillment of the required number of hours.
 - d. Transcripts from foreign education institutions are not considered for pre-requisite courses.
2. A competitive score on the verbal and quantitative sections of the Graduate Record Examination is required. GRE scores over 5 years will not be accepted. A minimum score of 300 is considered competitive.
3. Three letters of reference are required, one from a professor, one from a MD/PA or other health care provider and one from another unrelated source. These will be submitted through the CAPSA application.
4. Direct patient care experience is required. A minimum of 100 hours of experience gained through volunteer, shadowing or paid experience is acceptable. 300 hours is considered competitive. The experience must consist of patient oriented clinical care and not in a secretarial role. Experience form will be submitted with the CASPA application.
5. A completed application to the **Central Application Service for Physician Assistants (CASPA)** at <https://portal.caspaonline.org/> must be received by October 15th for spring admission; however, applications are accepted starting May 1st and the PA Program uses a rolling admissions process; therefore, the applicants are encouraged to apply early.

6. ALL application materials, including transcripts, GRE scores, and pre-professional evaluation, must be received by the UTHSC Admissions Committee within four (4) weeks after the CASPA deadline or the student will be denied.
7. A personal interview, if requested, is required for admissions consideration.
8. Applicants must demonstrate good physical and mental health consistent with the demands of the educational program.
9. Applicants who accept a position in the program must declare the ability to fulfill the Technical Standards for Admission to the College of Allied Health Sciences, Department of Physician Studies. These standards may be found at http://www.uthsc.edu/allied/PA_.
10. Coursework from another physician assistant program may not be transferred to meet the requirements for admission to or graduation from the MMS-PA program. Additionally, the PA program will not award advanced standing (placement in the program at any point other than the beginning of year 1) or accept transfer credit for didactic courses or experiential learning.
11. Applicants who have received their undergraduate degree from an international institution must be citizens or permanent residents of the United States at the time of application, have their international transcript audited by World Education Service or comparable organization to show equivalence of undergraduate degree with a traditional BS degree in the United States and all pre-requisite courses must be taken in the United States at a regionally accredited institution of higher learning.
12. Applicants whose native language is not English must submit results of TOEFL (minimum overall score of 87, reading of 21, speaking of 26, listening of 20 and writing of 20).
13. Prior to enrollment, the following courses, described in the UTHSC Admissions Requirement Brochure, must be completed with grades of "C" or better

Prerequisite Requirements

Credit Hours

Biological Sciences (any biology except botany)

6

Anatomy and Physiology*

8

General Chemistry* (for science majors)

6

Mathematics (prefer bio-statistics)

3

General Psychology/Sociology

3

Medical Terminology

2

Microbiology

3

**Must include laboratory experiences-may be one term of comparative or human anatomy and one term of physiology.*

Recommended courses: Cell Biology, Molecular Biology, Biochemistry, Organic Chemistry, Genetics

Factors Considered in the Selection of Students

As the state's flagship health science center, UTHSC aims to improve human health through education, research, clinical care and public service. A variety of professional programs are offered through the six colleges that comprise the health science center: Allied Health, Dentistry, Graduate Health Sciences, Medicine, Nursing and Pharmacy. These programs prepare skilled and ethical health care professionals to meet the health care needs of the state of Tennessee and surrounding communities. To this end, the campus welcomes applications from women and men of all races, creeds, and cultures, who can pursue their studies in an environment that values intellectual curiosity, the pursuit of knowledge, excellence, compassion and integrity. Admission committees select highly qualified applicants from across Tennessee, seeking to enroll students from all regions of the state and from a variety of backgrounds, so as to provide access to a broad range of students and to serve the needs of the state's diverse communities for skilled health care providers.

Admission criteria for professional programs continue to emphasize academic excellence. However, in order to serve the needs of the state for health care professional in rural, urban and suburban environments, additional factors are also considered, including applications from individuals who are underrepresented in the health care professions, from non-traditional students and from students who represent the first in their families to pursue higher education.

The Physician Assistant Program Admission's Committee will make a holistic review of the application and may give consideration to the following as well as other factors when granting an interview: academic history and success, extracurricular activities, health care experience, military experience, Tennessee residents, applicants who possess the qualities that are underrepresented in the PA profession, non-traditional students and those who represent the first in their family to pursue higher education.

Procedure for Admissions Decisions:

1. A review of the CAPSA application by the Administrative Coordinator for Admissions will certify that the application is complete and that the applicant has met the minimum application standards.
2. The Administrative Coordinator for Admissions will forward the entire application to two members of the Admissions Committee for interview consideration.
3. The Admissions Committee will make a holistic review of the application. The committee will submit the interview decision and notify the Administrative Coordinator for Admissions to set up the interviews.
4. Interviews will be completed and include (when available) two PA Program faculty, the Admissions manager, one College of Allied Health or other College Faculty and practicing Physician Assistants. A minimum of three interviewers will be present for all interviews (including at least two PA Program faculty).
5. The Interview Committee recommendation as well as the applicant's file will be reviewed by the Admissions Committee for final decision regarding admission.
6. The Admissions Committee will meet in June to make the first round of admissions recommendations and will meet regularly thereafter until the cohort is full and a sufficient number of alternates have been identified.
7. The Admissions Committee will submit to the CAHS Dean's Office the recommendations for admission.
8. See the CAHS website and the UTHSC Admissions website for further information regarding and requirements for criminal background check, immunizations, and health insurance requirements at www.uthsc.edu/admissions/university-level_reqs.php

Health Requirements

Students must demonstrate good physical and mental health consistent with the demands of the educational program and the professional field of a physician assistant. Immunization against Hepatitis B virus is required as well as annual skin test for Tuberculosis. Some clinical rotation sites have additional requirements for health screening and/or further immunization. A description of the university's current health requirements can be accessed at www.uthsc.edu/admissions/university-level_reqs.php

Technical Standards

Physician Assistant students must have or acquire certain essential skills, functions and professional attitudes and behavior. In addition to the Technical Standards for Students in the College of Allied Health Sciences, each professional program requires additional specific standards. The specific standards for the PA Program are listed below.

Technical Standards set forth essential functions an applicant must be able to perform with or without reasonable accommodation to qualify for admission into the Physician Assistant (PA) Program. Modern PA education requires that the accumulation of scientific knowledge be accompanied by the simultaneous acquisition of skills and professional attitudes and behavior. Our faculty has the responsibility to graduate the best possible physician assistants; thus, admission to the PA program is offered to those who present the highest qualifications for the study of clinical practice.

Applicants must demonstrate that their senses are sufficiently intact to enable them to perform the activities necessary for PA education and to provide patient care; therefore, candidates for admission to the PA Program must meet the following capabilities and skills: critical thinking, sound judgment, emotional stability and maturity, empathy, physical and mental stamina and the ability to learn and function in a wide variety of educational settings. In all phases of Physician Assistant education, students must use their intellectual ability and must maintain emotional stability, particularly when under stress. Graduates of this Physician Assistant Program must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care.

The PA Committee on Admissions maintains that prospective students must meet certain minimum technical standards. Candidates for the Master of Medical Science Physician Assistant degree must have the following essential functions: motor skills; sensory and observational skills; communication skills; conceptual, integrative and quantitative skills; and behavioral and social skills and professionalism.

Motor Skills:

Candidates should have sufficient motor function to elicit information from patients by palpation, auscultation, percussion and other diagnostic maneuvers. Candidates should be able to execute motor functions necessary to provide general care and emergency treatment to patients.

Sensory and Observational Skills:

Candidates must be able to observe demonstrations and participate in experiments as required in the curriculum. They must be able to observe a patient accurately at a distance, as well as, close at hand and be able to obtain a medical history directly from the patient, while observing the patient's medical condition. This observation necessitates the functional use of the sense of vision, hearing and other sensory modalities.

Communication Skills:

Candidates must be able to communicate effectively and sensitively in oral and written form with patients. These skills must be performed at times in clinical settings when the time available for communication may be limited.

Conceptual, Integrative and Quantitative Skills:

These skills include measurement, calculation, reasoning, analysis and synthesis. Problem-solving and diagnosis, the critical skills demanded of physicians, require all these intellectual abilities. In addition, candidates must be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures.

Behavioral and Social Skills and Professionalism:

Empathy, integrity, concern for others, interpersonal skills, interest and motivation are all personal qualities that will be assessed during the admissions process and throughout physician assistant education. Candidates must possess the emotional well-being required for the full use of their intellectual abilities; the exercise of sound judgment, the prompt completion of all responsibilities attendant to the diagnosis and care of patients; and the development of mature, sensitive and effective relationships with patients. Candidates must be able to tolerate physically taxing workloads and to function effectively when stressed. They must be able to adapt to changing environments, to display flexibility and to learn to function in the face of uncertainty inherent in the clinical problems of many patients.

In summary, the mission of the Physician Assistant faculty is to prepare students for the comprehensive practice of medicine under supervision of a physician. The UTHSC Committee on Admissions and the College of Medicine, in accordance with Section 504 of the 1973 Vocational Rehabilitation Act and the Americans with Disabilities ACT [ADA] [Public Law 101-336, has established the aforementioned essential functions of medical students and physicians. The PA Admissions Committee will consider for admission, applicants who demonstrate the ability to perform or learn to perform the essential skills listed in this document. The PA Program must ensure that patients are not placed in jeopardy by the students or physicians with substantially impaired intellectual, physical or emotional functions. Students will be judged not only on their scholastic accomplishments, but also on their physical and emotional capacities to meet the full requirements of the school's curriculum and to graduate as skilled and effective practitioners of medicine.

Tuition and Fees

Information about tuition and fees for the individual programs in the College of Allied Health may be found at http://www.uthsc.edu/finance/bursar/colleges_fee_information.php with additional information regarding estimated cost of attendance at <http://www.uthsc.edu/finaid/coa.php>.

Students enrolled in the Physician Assistant Program will be required to attend clinical rotations at sites across the state of Tennessee. All costs incurred including housing, transportation and meals are the responsibility of the student.

Fees include an estimate of the costs of medical equipment required. The list of required equipment will be provided to the admitted student before matriculation.

Scholarships

Students may access information regarding financial aid, including information on applying for financial aid, available scholarships, financial literacy counseling, and general student loan information at <http://www.uthsc.edu/finaid/>.

Attendance Requirements

Physician Assistant students are expected to attend all scheduled classes, laboratory sessions and clinical rotations. A complete attendance and work policy is located in the PA student handbook available on the website.

Grading

The PA Program utilizes the following grading scale:

| | |
|-----------|---------------------|
| A | 93 - 100 (%) |
| A- | 90 - 92 |
| B+ | 87 - 89 |
| B | 83 - 86 |
| B- | 80 - 82 |
| C+ | 77 - 79 |
| C | 73 - 76 |
| C- | 70 - 72 |
| D | 65 - 69 |
| F | <65 |

A grade of "C-"(70-72) is considered a passing score for a course.

The program does not round up scores.

Information about grading for incompletes and withdrawals is covered in the general college section of the catalog. Students should reference this information about grade assignments in these situations

Dropping/Adding a Course

Students in the PA program are not allowed to drop or add a course.

PA Program Withdrawal/Deceleration Policy:

- Leave of absence may be granted by the Dean with recommendation of the Department Chair/Program Director. Such recommendations must be based upon demonstration by the student of a compelling non-academic reason for granting such a leave.
- The student must complete a “change of student status form” and turn it in with appropriate documentation (if applicable) to the Department Chair/Program Director who in turn must alert the Office of the Registrar.
- Only one leave of absence will be granted to a student in any 12-month period. The length of the absence will be determined by the Program Director in consultation with the Student Progress and Promotion Committee.
- If the leave of absence exceeds the pre-approved time, the student must request readmission. The student may be eligible to restart the program with the next matriculating cohort of students; however, eligibility to return will be determined on a case by case basis by the Student Progress and Promotion Committee and will be based upon academic performance prior to the leave of absence, the amount of time spent away from the program, and the availability of space within the program.
- If the leave of absence is not granted or the student fails to return, the student will be considered to have withdrawn from the program.
- Students who are absent from the program for more than 6 months are considered to have withdrawn. Such students may be eligible for readmission, but must reapply through the normal admission process. Re-admission will be made on a case by case basis and will be based upon academic performance and the personal/professional conduct of the student prior to the withdrawal.
- Students who are receiving financial aid should consult with the Financial Aid Office when considering a leave of absence since a change in student status will affect their eligibility for loan deferrals.

Student Identification Badges

PA students are required to wear their ID badges at all times during the didactic and clinical year. Additional dress code information can be found in the PA student handbook.

Communication

The official method of communication between students and their respective departments, programs or the dean’s office is through the UTHSC email system. Students must check their email at least once per day to avoid missing vital information.

Professionalism

It is the expectation of all students enrolled at the UTHSC to maintain the high ethical and professional standards of the various disciplines of the health professions. Failure to do so may subject a student to suspension or other appropriate remedial action by the University as outlined in CenterScope, Maintenance of Ethical and Professional Standards of the Health Professions (<http://www.uthsc.edu/centerscope/Centerscope.pdf>)

The standards for the PA profession can be found at: http://www.aapa.org/the_pa_profession.aspx

Progress and Promotions Policy- Didactic Year

Each term, the faculty who taught each class of students during that term meets with the Committee on Student Progress and Promotion and will recommend promotion to the next term based on:

1. Follow the approved course of study, satisfactorily completing all courses.
2. Complete all courses with a cumulative GPA of at least 3.00 ("B").
3. Demonstrate proficiency in all PA competencies.
4. Settle all financial accounts with the University.
5. Attend all events noted as mandatory by the PA Program which may include but are not limited to: guest lectures, conferences, meetings, dinners, White Coat Ceremony, Orientation, Grand Rounds and other activities.

Progress and Promotions Policy- Clinical Year

Each term, the faculty meets with the Committee on Student Progress and Promotion and will recommend promotion to the next term based on:

1. Follow the approved course of study, satisfactorily completing all rotations. *
2. Complete rotations with at least a 70% (C-) average and cumulative term GPA of at least 3.00 ("B").
3. Attain satisfactory rating (average score of 3 on a scale of 1-5) on each end of rotation preceptor evaluation with no scores demonstrating serious deficiencies (scores of 1).
4. Achieve a score of 70% or higher on each end of rotation examination.
5. Settle all financial accounts with the University.
6. Attendance at all events noted to be mandatory by the PA Program.

**A student who receives a failing grade in one rotation may, at the discretion of the Committee on Student Progress and Promotion, be permitted to advance to the next term with the understanding that the failed rotation will need to be repeated.*

Graduation Requirements

The following requirements must be satisfied to earn the degree of Master of Medical Science: Physician Assistant.

1. The candidate must complete all required courses of the professional curriculum with a minimum grade point average of 3.0 and successfully complete the senior summative evaluation.
2. The candidate must demonstrate professionalism expected of a student in the PA profession which is acceptable to the faculty according to the AAPA Code of Ethics.
3. The candidate must discharge all financial obligations to the University and affiliated organizations.

Accreditation

The ARC-PA has granted Accreditation-Provisional status to the UTHSC Physician Assistant program. Accreditation-Provisional is an accreditation status. The status indicates that the plans and resource allocation for the proposed program appear to demonstrate the program's ability to meet the ARC-PA Standards, if fully implemented as planned. Accreditation-Provisional does not ensure any subsequent accreditation status. It is limited to no more than five years from matriculation of the first class.

Curriculum Description

The Department of Physician Assistant Studies is located within the College of Allied Health Sciences. The program is designed as a full-time 24 month graduate program leading to the degree of Master of Medical Science-Physician Assistant. Students complete four years of pre-professional coursework at other colleges or universities, and then complete two years of professional education on the Memphis campus of the University of Tennessee Health Science Center. Candidates are required to have a baccalaureate degree prior to admission. Students matriculate in the spring term and graduate at the end of the fall term, two years later, after completion of all academic and clinical rotation requirements. Clinical rotation sites are located in Memphis, throughout Tennessee, and in surrounding states. Due to the limited number of clinical sites in Memphis and other urban areas, students should anticipate the financial impact of traveling and living out of town for the majority of their clinical rotations. The intent of the clinical rotation is to provide the student with broad exposure to physician assistant practice in a variety of settings and geographic locations.

The Professional Curriculum

The schedule of a physician assistant student is rigorous. Because of the time required for attending lectures, laboratories and clinical assignments, plus the time necessary for study and practice, students are encouraged to minimize outside work commitments during the time they are enrolled in the program.

Didactic Year (Year 1)

The following is a summary of the required courses included in the Master of Medical Science-Physician Assistant professional curriculum. Required courses are offered annually in the terms indicated. The courses offered during year 1-didactic year must be completed in sequence and are only offered in the terms indicated.

Credit hours determined by the following:

15 Lecture Hours = 1 Credit Hour

45 Lab Hours = 1 Credit Hour

(1) SPRING TERM BLOCK I (Jan-Mar)

| Course | Name | Credit Hours | Lecture Hours | Lab Hours |
|----------|------------------------------------|--------------|---------------|-----------|
| PAS 510 | General Medicine I | 4 | 60 | 0 |
| PAS 520* | Special Topics I | 2 | 30 | 0 |
| PAS 530* | Diagnostics I (Lab Medicine) | 3 | 37 | 23 |
| PAS 540* | History and Physical Examination I | 3 | 30 | 45 |
| PAS 503* | Medical Physiology | 5 | 75 | 0 |
| | Total hours | 17 | 232 | 68 |

(1) SPRING TERM BLOCK 2 (Mar-May)

| Course | Name | Credit Hours | Lecture Hours | Lab Hours |
|----------|---|--------------|---------------|-----------|
| PAS 511 | General Medicine II | 4 | 60 | 0 |
| PAS 520* | Special Topics I (cont. from Spring Block 1) | 2 | 30 | 0 |
| PAS 530* | Diagnostics I (Lab Medicine) (cont. from Spring Block 1) | 3 | 37 | 23 |
| PAS 540* | History & Physical Examination I(cont. from Spring Block 1) | 3 | 30 | 45 |
| PAS 503* | Medical Physiology (cont. from Spring Block 1) | 5 | 75 | 0 |
| | Total hours | 17 | 232 | 68 |

*The following courses are continuous over the Spring Term Blocks 1 and 2: PAS 520, PAS 530, PAS 540 and PAS 503.

(1) SPRING TERM BLOCK 3 (Mar-June)

| | | | | |
|----------|---------------|---|----|----|
| ANAT 501 | Gross Anatomy | 5 | 52 | 64 |
|----------|---------------|---|----|----|

(2) SUMMER TERM (June-Aug)

| Course | Name | Credit Hours | Lecture Hours | Lab Hours |
|---------|-------------------------------------|--------------|---------------|-----------|
| PAS 512 | General Medicine III | 4 | 60 | 0 |
| PAS 521 | Special Topics II | 2 | 30 | 0 |
| PAS 531 | Diagnostics II (EKG) | 1 | 15 | 0 |
| PAS 541 | History and Physical Examination II | 2 | 22 | 23 |
| PAS 560 | Pharmacotherapeutics I | 2 | 30 | 0 |
| PAS 570 | The PA Profession | 2 | 30 | 0 |
| PAS 572 | Critical Appraisal | 2 | 30 | 0 |
| | Total hours | 15 | 217 | 23 |

(3) FALL TERM BLOCK 1 (Aug-Oct)

| Course | Name | Credit Hours | Lecture Hours | Lab Hours |
|----------|--------------------------------------|--------------|---------------|------------|
| PAS 513 | General Medicine IV | 3 | 45 | 0 |
| PAS 522* | Special Topics III | 2 | 30 | 0 |
| PAS 532* | Diagnostics III (Radiology) | 2 | 30 | 0 |
| PAS 542* | History and Physical Examination III | 3 | 30 | 45 |
| PAS 561* | Pharmacotherapeutics II | 3 | 45 | 0 |
| PAS 550 | Skills and Procedures | 4 | 30 | 90 |
| PAS 580* | Capstone I | 1 | 15 | 0 |
| | Total hours | 18 | 225 | 135 |

(3) FALL TERM BLOCK 2 (Oct-Dec)

| | | | | |
|----------|--|-----------|------------|------------|
| PAS 514 | General Medicine V | 3 | 45 | 0 |
| PAS 522* | Special Topics III (cont. from Fall Block 1) | 2 | 30 | 0 |
| PAS 532* | Diagnostics III (Radiology) (cont. from Fall Block 1) | 2 | 30 | 0 |
| PAS 542* | History and Physical Examination III (cont. from Fall Block 1) | 3 | 30 | 45 |
| PAS 561* | Pharmacotherapeutics II (cont. from Fall Block 1) | 3 | 45 | 0 |
| PAS 550* | Skills and Procedures (cont. from Fall Block 1) | 4 | 30 | 90 |
| PAS 580* | Capstone I (cont. from Fall Block 1) | 1 | 15 | 0 |
| | Total hours | 18 | 225 | 135 |

**The following courses are continuous over the Fall Term Blocks 1 and 2: PAS 522, PAS 532, PAS 542, PAS 561, PAS 551 and PAS 580.*

Clinical Year (Year 2): Supervised Clinical Practice Experience/Rotations

The clinical year curriculum includes 11 required rotations that will be completed in the order determined by the Clinical Coordinator. An individual student's rotation schedule will vary. The tables below are representative of a potential student schedule. All rotations are offered each term of the clinical year. Students are not allowed to set up their own rotations. No international rotations are offered at this time.

Required rotations include: Family Medicine I, Family Medicine II, Internal Medicine I, Internal Medicine II, General Surgery, Emergency Medicine, Pediatrics, Women's Health, Behavioral Medicine, Elective I and Elective II.

(4) Spring Term (Jan-May)

| Course | Name | Credit Hours | Rotation Length |
|---------|----------------------|--------------|-----------------|
| PAS 601 | Family Medicine I | 4 | 4 weeks |
| PAS 602 | Family Medicine II | 4 | 4 weeks |
| PAS 603 | Internal Medicine I | 4 | 4 weeks |
| PAS 604 | Internal Medicine II | 4 | 4 weeks |
| PAS 605 | General Surgery | 4 | 4 weeks |
| PAS 606 | Emergency Medicine | 4 | 4 weeks |
| | Total hours | 24 | |

(5) Summer Term (June-Aug)

| Course | Name | Credit Hours | Rotation Length |
|---------|---------------------|--------------|-----------------|
| PAS 607 | Pediatrics | 4 | 4 weeks |
| PAS 608 | Women's Health | 4 | 4 weeks |
| PAS 609 | Behavioral Medicine | 4 | 4 weeks |
| | Total hours | 12 | |

(6) Fall Term (Aug-Dec)

| Course | Name | Credit Hours | Rotation Length |
|---------|----------------------|--------------|-----------------|
| PAS 610 | Elective Rotation I | 4 | 4 weeks |
| PAS 611 | Elective Rotation II | 4 | 4 weeks |
| PAS 620 | Summative Evaluation | 4 | 4 weeks |
| PAS 621 | Capstone II | 2 | 4 weeks |
| | Total hours | 14 | |

| | |
|---|------------|
| Total Credit Hours for Didactic (First) Year: | 62 |
| Total Credit Hours for Clinical (Second) Year: | 50 |
| Total Credit Hours for the Curriculum: | 112 |

COURSE DESCRIPTIONS

- ANAT 501 Gross Anatomy** *Credit: 5* For grade. Offered annually during the spring term block 3 of the didactic year, this lecture and lab course covers the study of the gross structure of the human body. The course will include dissection of cadavers supplemented by lecture and clinical applications. *Mode of delivery:* Lecture and Lab. *Pre-Requisites:* Admission to the PA Program *Offered:* Spring. *Instructor of Record:* Angela Cantrell, PhD (Spring).
- PAS 503 Medical Physiology** *Credit: 5* For grade. This course covers the properties, composition, and function of living matter and its reactions to internal and external agents. The course includes an introduction to the basic concepts of pathophysiology. The course is composed of lectures and class demonstration experiences concerning the following organ systems: neurology, special senses, circulatory, respiratory, renal, digestive, and endocrine. The mechanism of integration of the various physiological systems is stressed. Delivered in a lecture and clinical case format. *Mode of delivery:* Lecture. *Pre-Requisites:* Admission to the PA Program *Offered:* Spring. *Instructor of Record:* David Nutting (Spring).
- PAS 510 General Medicine I** *Credit: 4* For grade. This course is designed to provide the essentials of diagnosis and management of the most common clinical problems seen by primary care practitioners. Using an organ system approach, clinical information presented includes the etiology of disease, presentation, physiology and pathophysiology of disease (when not covered elsewhere), pertinent laboratory and radiographic concerns, treatment options and patient education and follow up care. Treatment and care options presented include: preventive, emergent, acute, chronic, rehabilitative, and palliative when applicable. This course covers the following topics: Hematology, Dermatology, and EENT/Dental. Topic schedule subject to change at the discretion of the course director. *Mode of delivery:* Lecture. *Pre-Requisites:* Admission to the PA Program *Offered:* Spring term Block 1. *Instructor of Record:* Johnna Tanner (Spring).
- PAS 511 General Medicine II** *Credit: 4* For grade. Offered annually during the spring term block 2 of the didactic year, This course is designed to provide the essentials of diagnosis and management of the most common clinical problems seen by primary care practitioners. Using an organ system approach, clinical information presented includes the etiology of disease, presentation, physiology and pathophysiology of disease (when not covered elsewhere), pertinent laboratory and radiographic concerns, treatment options and patient education and follow up care. Treatment and care options presented include: preventive, emergent, acute, chronic, rehabilitative, and palliative when applicable. This course covers the following topics: Infectious Disease, Endocrinology, Gastrointestinal, Genitourinary, Nutrition, and Renal. Topic schedule subject to change at the discretion of the course director. *Mode of delivery:* Lecture. *Pre-Requisites:* PAS 510- General Medicine I *Offered:* Spring. *Instructor of Record:* Johnna Tanner (Spring).
- PAS 512 General Medicine III** *Credit: 4* For grade. This course is designed to provide the essentials of diagnosis and management of the most common clinical problems seen by primary care practitioners. Using an organ system approach, clinical information presented includes the etiology of disease, presentation, physiology and pathophysiology of disease (when not covered elsewhere), pertinent laboratory and radiographic concerns, treatment options and patient education and follow up care. Treatment and care options presented include: preventive, emergent, acute, chronic, rehabilitative, and palliative when applicable. This course covers the following topics: Adrenergic/Psychiatric Medications, Psychiatric Medicine, Reproductive, Women's Health and Men's Health. Topic schedule subject to change at the discretion of the course director. *Mode of delivery:* Lecture. *Pre-Requisites:* PAS 511-General Medicine II *Offered:* Summer. *Instructor of Record:* Johnna Tanner (Spring).

- PAS 513 General Medicine IV** *Credit: 3* For grade. This course is designed to provide the essentials of diagnosis and management of the most common clinical problems seen by primary care practitioners. Using an organ system approach, clinical information presented includes the etiology of disease, presentation, physiology and pathophysiology of disease (when not covered elsewhere), pertinent laboratory and radiographic concerns, treatment options and patient education and follow up care. Treatment and care options presented include: preventive, emergent, acute, chronic, rehabilitative, and palliative when applicable. This course covers the following topics: Cardiovascular and Pulmonology. Topic schedule subject to change at the discretion of the course director. *Mode of delivery:* Lecture. *Pre-Requisites:* PAS 512-General Medicine III *Offered:* Fall term Block 1.
- PAS 514 General Medicine V** *Credit: 3* For grade. Offered annually during the fall term block 2 of the didactic year, This course is designed to provide the essentials of diagnosis and management of the most common clinical problems seen by primary care practitioners. Using an organ system approach, clinical information presented includes the etiology of disease, presentation, physiology and pathophysiology of disease (when not covered elsewhere), pertinent laboratory and radiographic concerns, treatment options and patient education and follow up care. Treatment and care options presented include: preventive, emergent, acute, chronic, rehabilitative, and palliative when applicable. This course covers the following topics: Musculoskeletal and Neurology. Topic schedule subject to change at the discretion of the course director. *Mode of delivery:* Lecture. *Pre-Requisites:* PAS 513-General Medicine IV *Offered:* Fall term Block 2.
- PAS 520 Special Topics I** *Credit: 2* For grade. A Lecture designed to cover specialized medicine topics. Topics covered this term include basic sciences review, genetics, molecular biology, immunology and wound healing as well as pain management, response to illness/injury/stress, basic public health concepts, and physical rehabilitation. Other topics may be added at the discretion of the instructor. The course will be taught by experts in their individual fields. *Mode of delivery:* Lecture. *Pre-Requisites:* Admission to the PA Program *Offered:* Spring. *Instructor of Record:* Linda Pifer (Spring).
- PAS 521 Special Topics II** *Credit: 2* For grade. Course designed to cover specialized medicine topics. Topics covered this term include: emergency medicine, surgical medicine, hospital based medicine, behavioral medicine (sad/bad news/diverse populations/counseling/human sexuality) and military medicine. Other topics may be added at the discretion of the instructor. The course will be taught by experts in their individual fields. *Mode of delivery:* Lecture. *Pre-Requisites:* PAS 520 Special Topics I *Offered:* Summer. *Instructor of Record:* Johnna Tanner (Spring).
- PAS 522 Special Topics III** *Credit: 2* For grade. Course designed to cover specialized medicine topics. Topics covered this term include: pediatrics (congenital heart disease, parenting, behavioral health, medication), violence detection and prevention, normal and abnormal development across the lifespan, and geriatrics. Other topics may be added at the discretion of the instructor. The course will be taught by experts in their individual fields. *Mode of delivery:* Lecture. *Pre-Requisites:* PAS 521 Special Topics II *Offered:* Fall.
- PAS 530 Diagnostics I (Laboratory Medicine)** *Credit: 3* For grade. A combined lecture and lab course designed to cover the basic concepts of diagnostic testing in clinical medicine. The content includes common laboratory tests, when to use and how to interpret and effectively utilize the results. Skills included are: specimen collection, point of care testing, provider performed microscopy, IV/arterial puncture, clean and sterile procedure and interpretation of laboratory data and normal values taught in a case based format. *Mode of delivery:* Lecture and Lab. *Pre-Requisites:* Admission to the PA Program *Offered:* Spring. *Instructor of Record:* Linda Ross (Spring).

- PAS 531 **Diagnostics II (EKG)**** *Credit: 1* Course designed to cover the concepts of diagnostic testing in clinical medicine. The content includes the understanding and analysis of the 12-lead electrocardiogram. Course content includes an overview of the electrophysiology of the heart, basic approach to the evaluation of an electrocardiogram, obtaining a 12-lead electrocardiogram and rhythm strip, recognition of cardiac abnormalities such as dysrhythmias, ischemia, infarction, cardiac inflammatory conditions, conduction abnormalities, and chamber enlargement. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* PAS 530 Diagnostics I (Laboratory Medicine) *Offered:* Summer. *Instructor of Record:* Kent Lee (Spring).
- PAS 532 **Diagnostics III (Radiology)**** *Credit: 2* For grade. Course designed to cover the concepts of diagnostic testing in clinical medicine. The content includes the utilization and interpretation of radiologic diagnostic tests. Course content includes an overview of radiology, interpretation of x-rays, competence in ordering the correct diagnostic test for presenting complaint, introduction to fluoroscopy, computerized tomography, magnetic resonance imaging, ultrasound, nuclear medicine, and angiography. Practical exams to include plain film interpretation and the application of radiology to diagnosis. *Mode of delivery:* Lecture. *Pre-Requisites:* PAS 531 Diagnostics II (EKG) *Offered:* Fall.
- PAS 540 **History and Physical Exam I**** *Credit: 3* For grade. Course is designed to develop the cognitive, psychomotor and affective attributes for identifying and describing normal human anatomy, recognizing normal vs. pathological clinical manifestations, obtaining a medical history, performing a screening physical examination and recording findings as medical-legal documents. Teaching emphasis will be a method of instruction relevant to the structure and function of body systems, clinical manifestations and physical examination demonstration. Emphasis is placed on communication skills, cultural sensitivity, professionalism and standardization of medical record documentation. Students will demonstrate acquisition of skills during practical examinations. Covered in this course: cultural sensitivity when obtaining history and completing physical exam techniques, introduction to physical exam, history taking, communication skills, the use of diagnostic equipment and vital signs. History and physical exam techniques for pediatrics, adults, geriatrics and pregnant patients in the following body systems: skin, hair, nails, mental status, abdomen, anus, rectum, prostate, Delivery will include lecture, laboratory demonstrations, and encounters with standardized patients in simulated experiences. *Mode of delivery:* lecture, laboratory demonstrations, and encounters with standardized patients in simulated experiences. *Pre-Requisites:* Admission to the PA Program *Offered:* Spring. *Instructor of Record:* Paul Koltnow (Spring).
- PAS 541 **History and Physical Exam II**** *Credit: 2* For grade. Course is designed to develop the cognitive, psychomotor and affective attributes for identifying and describing normal human anatomy, recognizing normal vs. pathological clinical manifestations, obtaining a medical history, performing a screening physical examination and recording findings as medical-legal documents. Teaching emphasis will be a method of instruction relevant to the structure and function of body systems, clinical manifestations and physical examination demonstration. Emphasis is placed on communication skills, cultural sensitivity, professionalism and standardization of medical record documentation. Students will demonstrate acquisition of skills during practical examinations. Covered in this course: history and physical exam techniques for pediatrics, adults, geriatrics and pregnant patients in the following body systems: head, neck, breast, axilla, female genitalia, male genitalia and hernias. Delivery will include lecture, laboratory instruction and simulations. *Mode of delivery:* lecture, laboratory instruction and simulations. *Pre-Requisites:* PAS 540 History and Physical Exam I *Offered:* Summer. *Instructor of Record:* Paul Koltnow (Spring).

- PAS 542 History and Physical Exam III** *Credit: 3* For grade. Course is designed to develop the cognitive, psychomotor and affective attributes for identifying and describing normal human anatomy, recognizing normal vs. pathological clinical manifestations, obtaining a medical history, performing a screening physical examination and recording findings as medical-legal documents. Teaching emphasis will be a method of instruction relevant to the structure and function of body systems, clinical manifestations and physical examination demonstration. Emphasis is placed on communication skills, cultural sensitivity, professionalism and standardization of medical record documentation. Students will demonstrate acquisition of skills during practical examinations. Covered in this course: history and physical exam techniques for pediatrics, adults, geriatrics and pregnant patients in the following body systems: cardiovascular, peripheral vascular, thorax, lungs, nervous, musculoskeletal. Documentation of history and physical exam skills through practical exams in nursing homes/clinic settings will be included in this course. Delivery will include lecture, laboratory instruction, and simulations. *Mode of delivery:* lecture, laboratory instruction, and simulations. *Pre-Requisites:* PAS 541 History and Physical Exam II *Offered:* Fall. *Instructor of Record:* Paul Koltnow (*Spring*).
- PAS 550 Skills and Procedures** *Credit: 4* Course is designed to introduce the indications, contraindications, rationale, complications, essential anatomy/physiology and steps in performing clinical procedures. This knowledge is then applied in the clinical setting by performing the appropriate procedures as they correlate to routine care, identifying, and/or treating a particular diagnosis. The class is taught in traditional class time with scheduled practicum time and direct observation of skills utilizing an evaluation check list. *Mode of delivery:* Lecture and lab. *Pre-Requisites:* Admission to the PA Program *Offered:* Fall.
- PAS 560 Pharmacotherapeutics I** *Credit: 2* For grade. This course is designed to provide a basis for making clinical decisions in the pharmacologic/therapeutic management of commonly occurring health problems of primary care patients. The student will develop an understanding of the theoretical concepts surrounding pharmacology, such as the pharmacokinetics and pharmacodynamics of drugs, and the concepts surrounding pharmacotherapy. Drug classifications as well as common examples in each category are discussed. For each classification of drugs covered, their mode of action, clinical effects and side effects will be emphasized as well as prescriptive concerns discussed. Delivered in Lecture. *Mode of delivery:* lecture. *Pre-Requisites:* Admission to the PA Program *Offered:* Summer. *Instructor of Record:* Johnna Tanner (*Spring*).
- PAS 561 Pharmacotherapeutics II** *Credit: 3* For grade. This course is designed as a continuation of PAS 560, to provide a basis for making clinical decisions in the pharmacologic/therapeutic management of commonly occurring health problems of primary care patients. The student will develop an understanding of the theoretical concepts surrounding pharmacology, such as the pharmacokinetics and pharmacodynamics of drugs, and the concepts surrounding pharmacotherapy. Drug classifications as well as common examples in each category are discussed. For each classification of drugs covered, their mode of action, clinical effects and side effects will be emphasized as well as prescriptive concerns discussed. *Mode of delivery:* lecture. *Pre-Requisites:* PAS 560 Pharmacotherapeutics I *Offered:* Fall.
- PAS 570 The Physician Assistant Profession** *Credit: 2* This hybrid course is designed to introduce the PA student to concepts related to the history and future of the PA profession as well as the professional, ethical, legal and business aspects of the practice of medicine. The course is taught in a hybrid format with emphasis on current literature and case studies. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* Admission to the PA Program *Offered:* Summer. *Instructor of Record:* Johnna Tanner (*Spring*).
- PAS 572 Critical Appraisal** *Credit: 2* For grade. This hybrid lecture/online course is designed to cover concepts related to the critical appraisal of scientific research. Topics include evidence based medicine, study design, methodology, and statistical analysis with application to clinical practice based decisions. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* Admission to the PA Program *Offered:* Summer. *Instructor of Record:* Darron Smith (*Spring*).

PAS 580 Capstone I *Credit: 1* For grade. This course designed to allow students to integrate aspects of the profession into a master's level project. Students will pick their focus area and complete initial research during the term. Students will meet regularly with their advisor to discuss potential projects and present initial research. Project themes may be philanthropic as well as research oriented. Formal presentations of the master's level capstone will occur during the last term of the clinical year. *Mode of delivery:* Lecture. *Pre-Requisites:* PAS 572 Critical Appraisal *Offered:* Fall.

Year Two – Supervised Clinical Practice Experience - Rotations

PAS 601 Family Medicine I *Credit: 4 (4 weeks)* This supervised clinical practice experience/rotation is designed to introduce the student to the practice of primary care family medicine. This consists of providing comprehensive, continuing medical care to all members of the family. The entire person is considered within the realm of family, employment, society and recreation. The rotation will provide opportunities for the student to be responsible for patients of all ages, from the initial visit through possible hospitalization and follow-up. The student will have the opportunity to perform physical exams, develop a differential diagnosis, order and interpret appropriate diagnostics, propose a treatment plan, and provide patient education on diagnosis, prevention and health maintenance of disease processes. *Mode of delivery:* Supervised clinical practice experience/rotation. *Pre-Requisites:* Successful completion of the didactic year *Offered:* Offered each term of the clinical year.

PAS 602 Family Medicine II *Credit: 4 (4 weeks)* This is a continuation of Family Medicine I (PAS 601). During this rotation students are further exposed to common disorders and procedures encountered in the Family Medicine setting. *Mode of delivery:* Rotation. *Pre-Requisites:* PAS 601 Family Medicine I *Offered:* Offered each term of the clinical year.

PAS 603 Internal Medicine I *Credit: 4 (4 weeks)* The purpose of this rotation is to expose the Physician Assistant student to a wide range of chronic and acute medical conditions encountered with the internal medicine population. This will provide the student with direct experience in applying medical skills and knowledge toward evaluation, treatment and management of complex cases which may occur in inpatient or out-patient settings. *Mode of delivery:* Rotation. *Pre-Requisites:* Successful completion of the didactic year *Offered:* Offered each term of the clinical year.

PAS 604 Internal Medicine II *Credit: 4 (4 weeks)* A continuation of Internal Medicine I, this rotation will allow the student in depth experience providing care for the Internal Medicine patient. Students are exposed to common disorders and procedures that will take place in the outpatient clinic, inpatient hospital setting and or intensive care unit.; and will provide opportunities for interacting with adult and geriatric patients from the initial visit through possible hospitalization and follow up. *Mode of delivery:* Rotation. *Pre-Requisites:* PAS 603 Internal Medicine I *Offered:* Offered each term of the clinical year.

PAS 605 General Surgery *Credit: 4 (4 weeks)* The emphasis in this rotation is on common procedures and disorders encountered in the General Surgery setting. Students will learn pre and post-operative care of the surgical patient; the student will also obtain experience in the operation room arena through active participation in surgical cases. The student will perform minor surgical procedures and become educated in the management and overall care of the surgical patient. *Mode of delivery:* Rotation. *Pre-Requisites:* Successful completion of the didactic year *Offered:* Offered each term of the clinical year.

PAS 606 Emergency Medicine *Credit: 4 (4 weeks)* This rotation will provide clinical training experience in emergency medicine. The student will be educated in the approach to common primary care emergency department health problems. The student will be able to develop skills in emergency treatment and actions to sustain life, and management of a variety of acute, life threatening medical, surgical and psychiatric clinical problems specific to emergency medicine. *Mode of delivery:* Rotation. *Pre-Requisites:* Successful completion of the didactic year *Offered:* Offered each term of the clinical year.

- PAS 607 Pediatric Medicine** *Credit: 4 (4 weeks)* In this rotation the student will learn the aspects of caring for the pediatric patient from birth through adolescence. The focus will be on recognizing and managing common childhood illnesses, assessment of growth and development, immunizations, nutrition, psycho-social issues and preventive health care. *Mode of delivery:* Rotation. *Pre-Requisites:* Successful completion of the didactic year *Offered:* Offered each term of the clinical year.
- PAS 608 Women's Health** *Credit: 4 (4 weeks)* In this rotation, students will be provided the opportunity to acquire skills to approach common issues of women's health including obstetrical and gynecological services. Students will participate in providing basic health care for the female patient including family planning, cancer detection, pre-natal care and nutrition. *Mode of delivery:* Rotation. *Pre-Requisites:* Successful completion of the didactic year *Offered:* Offered each term of the clinical year.
- PAS 609 Behavioral Medicine** *Credit: 4 (4 weeks)* In this rotation, students will be exposed to common psychosocial and substance abuse conditions encountered in the primary care setting. Focus will be on recognizing and understanding the development and presentation of these behaviors and how to provide interventions and treatment. Development of clinical counseling skills is emphasized. Students participate in field assignments by attending various group meetings, i.e., AA, weight watchers, hospice, or other support groups. *Mode of delivery:* Rotation. *Pre-Requisites:* Successful completion of the didactic year *Offered:* Offered each term of the clinical year.
- PAS 610 Elective Rotation I** *Credit: 4 (4 weeks)* In elective rotations, students will be provided the opportunity to delve further into areas of particular interest or specialization, such as orthopedics, dermatology, cardiothoracic surgery, neurology, geriatrics, oncology, hospitalist, and primary care, plastic & reconstructive surgery. Elective rotation selections must be reviewed and approved by the Clinical Coordinator. *Mode of delivery:* Rotation. *Pre-Requisites:* Successful completion of the didactic year *Offered:* Offered each term of the clinical year.
- PAS 611 Elective Rotation II** *Credit: 4 (4 weeks)* In elective rotations, students will be provided the opportunity to delve further into areas of particular interest or specialization, such as orthopedics, dermatology, cardiothoracic surgery, neurology, geriatrics, oncology, hospitalist, and primary care, plastic & reconstructive surgery. Elective rotation selections must be reviewed and approved by the Clinical Coordinator. *Mode of delivery:* Rotation. *Pre-Requisites:* Successful completion of the didactic year and PAS 610 Elective Rotation I *Offered:* Offered each term of the clinical year.

Year Two –Final Courses- Offered the final term of the Program

- PAS 620 Summative Evaluation** *Credit: 4* This is the final course in the PA. It is conducted on campus daily during the last four weeks of the Fall term. The purpose of this course is to assure the student's competency measuring interpersonal skills, patient care and professionalism for entry into the profession. It consists of lectures, examinations and labs utilizing standardized patients in clinical simulation settings. The course will utilize the grading system reported in the PA Program Student Addendum. The remediation process will be utilized for weak performance. *Mode of delivery:* Patient care. *Pre-Requisites:* Successful completion of the didactic year and all rotations *Offered:* Fall.
- PAS 621 Capstone II** *Credit: 2* Offered annually during the fall term of the clinical year, a course designed to allow students to integrate aspects of the profession into a master's level project that was initiated in PAS 580 Capstone I during Year 1 of the program. Students will complete and present their final project based on independent work conducted throughout the course of the program. *Mode of delivery:* Independent study. *Pre-Requisites:* Successful completion of the didactic year *Offered:* Fall.

FACULTY LIST

Adsit, Karen, Adjunct Assistant Professor, 1996; Doctor of Education, University of Houston (1991)

Allen, Joshua, Assistant Professor, 2013; Doctor of Pharmacy, Campbell University (2007)

Appling, Susan A., Associate Professor, 1992; Doctor of Physical Therapy, University of Tennessee Health Science Center (2008); Doctor of Philosophy in Education Psychology and Research, University of Memphis (2006)

Armstrong, William, Professor, 1984; Doctor of Philosophy, Michigan State University (1979)

Bartley, Brian, Teaching Associate, 2011; Doctor of Chiropractic, National University of Health Sciences (1990); Bachelor of Science in Chiropractic, National University of Health Sciences (1988); Master of Science in Physical Therapy, University of Indianapolis (1984)

Batorski, Rosemary, Associate Professor, 1989; Master of Occupational Therapy, Texas Woman's University (1985); Master of Education, University of Memphis (1976); Bachelor of Arts in Psychology, State College at Westfield Massachusetts (1970)

Boissonnault, William, Assistant Professor, 1986; Transitional Doctor of Physical Therapy, MGH Institute of Health Professions (2007); Doctor of Health Science, University of St. Augustine for Health Sciences (1999); Bachelor of Science in Physical Therapy, University of Wisconsin – Madison (1977); Certificate in Physical Therapy, University of Wisconsin (1977)

Bowman, Elizabeth, Professor, 1974; Master of Public Administration, University of Memphis (1985); Medical Record Administration Post-Baccalaureate Certificate, Baptist Memorial Hospital (1972)

Brooks, Keisha N., Assistant Professor, 2005; Master of Science in Administration, Central Michigan University (2004); Bachelor of Science in Cytotechnology, University of Tennessee Health Science Center (1999)

Buehler, Mary Velvet, Professor, 1985; Master of Arts in Speech Pathology, University of Tennessee, Knoxville (1985); Bachelor of Arts in Speech Pathology, University of Tennessee, Knoxville (1983)

Calhoun, Cynthia, Adjunct Assistant Professor, 1993; Doctor of Education in Higher and Adult Education, University of Memphis (2003); Master of Arts in Sociology, University of Memphis (1976); Bachelor of Arts in Sociology, Fisk University (1974)

Callaway, Joseph C., Associate Professor, 1995; Doctor of Philosophy in Zoology, University of Washington (1989)

Cantrell, Angela R., Associate Professor, 1999, Bachelor of Science in Biology and Psychology, University of Tennessee at Martin (1990), Doctor of Philosophy in Neuroscience, University of Tennessee Health Science Center (1994)

Casenhiser, Devin M., Associate Professor, 2011; Doctor of Philosophy in Linguistics, University of Illinois, Urbana – Champaign (2004); Master of Arts in Classics, University of Illinois, Urbana – Champaign (1998)

Clift, Judy, Associate Professor, 1980; Doctor of Physical Therapy, University of Tennessee Health Science Center (2007); Master of Science in Curriculum and Instruction, University of Memphis (1988); Bachelor of Science in Physical Therapy, University of Central Arkansas (1975)

Coleman, Frances Ann, Assistant Professor, 1996; Doctor of Physical Therapy, University of Tennessee Health Science Center (2008); Master of Science in Social Work, University of Tennessee, Knoxville (1977)

Collins, Bobby, Professor, 2008; Doctor of Dental Surgery, University of Iowa (1975); Master of Science in Teaching, University of Memphis (1969); Bachelor of Science in Biology, University of Memphis (1965)

Collins, Leilani, Associate Professor, 2001; Master of Science in Clinical Laboratory Sciences, University of Tennessee Health Science Center (2001)

Covington, John, Professor and Associate Dean, 1981; Doctor of Dental Surgery, University of Tennessee Health Science Center (1981); Master of Science in Individual Studies, University of Memphis (1977)

Cox, Amy, Teaching Associate, 2013; Master of Arts in Teaching (1992) University of Memphis; Bachelor of Science in Medical Technology University of Memphis (1975)

Crim, Susan, Teaching Associate, 2008; Doctor of Philosophy in Educational Leadership and Organizational Development, University of Louisville (2006); Master of Science in Adult Technological Education, University of Tennessee, Knoxville (1985); Bachelor of Science in Health Education, East Tennessee State University (1974); Associate of Science in Dental Hygiene, East Tennessee State University (1974)

Criswell, Sheila, Teaching Associate, 2009; Master of Science in Clinical Laboratory Sciences, University of Tennessee Health Science Center (2010); Bachelor of Science in Cytotechnology, University of Tennessee Health Science Center (1992)

Daniel, Susan, Assistant Professor, 2010; Master of Science in Education, University of Kentucky (1979); Bachelor of Science in Dental Aux Teacher Education, University of North Carolina at Chapel Hill (1977); Associate of Applied Sciences in Dental Hygiene, Wayne Community College (1972)

Doettl, Steven M., Clinical Assistant Professor, 1997; Doctor of Audiology, University of Tennessee, Knoxville (2004); Master of Arts in Audiology, University of Tennessee, Knoxville (2001); Bachelor of Arts in Audiology, University of Tennessee, Knoxville (1999)

Dorris, Stacy, Teaching Associate, 2009; Master of Business Administration, University of Memphis (2007); Bachelor of Science in Health Information Management, University of Tennessee Health Science Center (1999); Bachelor of Arts in Psychology, University of Mississippi (1998)

Dubray-Benstein, Barbara, Professor, 1979; Doctor of Philosophy in Biology, University of Memphis (2003); Master of Science in Biology, University of Memphis (1986); Bachelor of Science in Cytotechnology, University of Tennessee Health Science Center (1978)

Erickson, Mary Louise, Associate Professor, 1997; Doctor of Philosophy in Speech Science & Technology, University of Southern California (1989); Master of Music in Vocal Arts, University of Southern California (1984)

Faulkner, Lawrence W., Associate Professor, 2004; Doctor of Philosophy in Rehabilitation Sciences, University of Pittsburgh (2003); Bachelor of Science in Occupational Therapy, University of Texas Health Science Center at San Antonio (1986)

Flick, Jami E., Clinical Assistant Professor, 2012; Master of Science in Occupational Therapy, University of South Alabama (2007); Bachelor of Science in Pre-Professional Health Science, University of South Alabama (2006)

Franklin, Brandi E., Assistant Professor, 2006; Doctor of Philosophy in Health Science Administration, University of Tennessee Health Science Center (2009)

Gatlin, Roberta L., Assistant Professor, 2010; Bachelor of Science in Physical Therapy, University of Tennessee Health Science Center (1989); Bachelor of Science in Special Education, University of Memphis (1986)

Frese, Ethel Maureen, Adjunct Instructor, 2013; Doctor of Physical Therapy, Saint Louis University (2006)

Hamby, Ellen Ireland, Clinical Associate Professor, 1978; Doctor of Philosophy in Speech Pathology and Audiology, University of Iowa (1978); Master in Communicative Disorders, University of Mississippi (1974); Bachelor of Arts in Communicative Disorders, University of Mississippi (1973)

Harkrider, Ashley W., Associate Professor, 1994; Doctor of Philosophy in Communication Sciences & Disorders, University of Texas at Austin (1999); Master of Arts in Audiology, University of Tennessee, Knoxville (1995)

Hatten, Marie W., Instructor, Bachelor of Science in Psychology, 2005, University of Southern Mississippi (2001); Doctor of Physical Therapy, University of Tennessee Health Science Center (2007)

Head, Penny, Assistant Professor, 2013; Bachelor of Science, University of Tennessee Health Science Center (2008); Master of Science, California University of Pennsylvania (2007)

Hedrick, Mark S., Professor, 1997; Doctor of Philosophy in Hearing & Speech Sciences, Vanderbilt University (1991)

Hinman, Martha, Teaching Associate, 2011; Doctor of Education in Allied Health Education, University of Houston (1995); Master of Health Education in Physical Therapy, Medical College of Georgia (1980); Bachelor of Science in Physical Therapy, Medical College of Georgia (1976)

Hoffer, Brittany, Teaching Associate, 2012; Doctor of Physical Therapy, University of Saint Augustine (2009); Master of Physical Therapy, University of Saint Augustine (2007)

Holder-Ballard, Cassandra B., Associate Professor, 1996; Doctor of Education in Higher and Adult Education, University of Memphis (2006); Master of Public Health Administration, University of Memphis (1990); Bachelor of Science in Dental Hygiene, Tennessee State University (1984)

Hori, Roderick T., Associate Professor, 1998; Doctor of Philosophy in Biology, University of California, San Diego (1993)

Hume, Sue Bessel, Associate Professor, 1978; Doctor of Philosophy in Speech and Hearing Science, University of Tennessee, Knoxville (1984); Master of Medical Sciences, Emory University (1971)

Humphrey, Elizabeth Lynn, Clinical Assistant Professor, 1999; Doctor of Audiology, University of Tennessee, Knoxville (2005); Master of Arts in Audiology, University of Tennessee, Knoxville (2003); Bachelor of Arts in Audiology, University of Tennessee, Knoxville (2001)

Johns, Cameila, Assistant Professor, 1998; Bachelor of Medicine, Bachelor of Surgery, Andalas University, West Sumatera Indonesia (1993)

Johnstone, Patti Michele, Associate Professor, 2006; Doctor of Philosophy in Communicative Disorders, University of Wisconsin – Madison (2006); Master of Arts in Communicative Disorders & Sciences, State University of New York, Buffalo (1984)

Kamala Raghavan, Sajeesh Kumar, Associate Professor, 2012; Doctor of Philosophy in Ophthalmology and Visual Science, University of Western Australia (2006); Master of Science in Medical Informatics, Erasmus University (2002)

Kasser, Richard John, Associate Professor, 1990; Doctor of Philosophy in Anatomy, University of Kansas (1984); Master of Science in Physiology, Southern Illinois University, Carbondale (1977); Bachelor of Arts in Physiology, Southern Illinois University, Carbondale (1974)

Kenwright, Kathleen McLoughlin, Associate Professor, 1996; Master of Science in Instruction & Curriculum Leadership, University of Memphis (1998); Bachelor of Science in Biology, University of Memphis (1980)

Khuri, Ayda, Teaching Associate, 2008; Bachelor of Science in Dental Hygiene, University of Tennessee Health Science Center (2002); Master of Arts in Anthropology, University of Memphis (1985)

King, Amanda, Teaching Associate, 1995; Master of Health Informatics and Information Management, University of Tennessee Health Science Center (2009); Bachelor of Science in Health Information Management, University of Tennessee Health Science Center (2004); Bachelor of Science in Business Administration, University of Tennessee at Martin (1999)

King, Kristin Anne, Assistant Professor, 2008; Doctor of Philosophy in Communication Sciences & Disorders, East Carolina University (2008); Master of Science in Speech-Language/Auditory Pathology, East Carolina University (1996)

Koltnow, Paul J., Assistant Professor, 2013, Master of Science in Physician Assistant Studies, Bethel College (2003)

Kulkarni, Anand, Assistant Professor, 1999; Master in Surgery in Human Anatomy, Indira Gandhi Medical College, 1987; Bachelor of Medicine, Bachelor of Surgery, Government Medical College, Nagpur (1981)

Lee, Kent, Assistant Professor, 1985; Doctor of Medicine, University of Tennessee Health Science Center (1993)

Lee, Marilyn D., Professor, 1984; Doctor of Pharmacy, University of Tennessee Health Science Center (1980); Bachelor of Science in Pharmacy, University of Tennessee Health Science Center (1974)

Likens, Carol Counts, Associate Professor and Chair, 1983; Doctor of Philosophy in Health Sciences Administration, University of Tennessee Health Science Center (2001); Master of Business Administration, University of Tennessee at Martin (2008)

McCarthy, Jillian Heather, Assistant Professor, 2011; Doctor of Philosophy in Human Sciences, University of Nebraska – Lincoln (2011); Master of Science in Speech-Language Pathology and Audiology, University of Nebraska – Lincoln (2004)

Michael, Patricia Ann L., Clinical Professor, 2002; Doctor of Philosophy, Vanderbilt University (1989)

Mills, Carren E., Clinical Assistant Professor, 1999; Doctor of Philosophy in Speech and Hearing Science, University of Tennessee, Knoxville (2004); Master of Arts in Speech-Language Pathology, University of Tennessee, Knoxville (1997); Bachelor of Science in Psychology, Guilford College (1992)

Mitchell, Anita, Associate Professor, 1990; Doctor of Philosophy in Education Psychology and Research, University of Memphis (2012); Master of Science in Occupational Therapy, Boston University (1989); Bachelor of Health Sciences in Occupational Therapy, University of Missouri – Columbia (1983)

Mulvany, Ruth D., Associate Professor, 1981; Doctor of Physical Therapy, University of Tennessee Health Science Center (2007)

Nolen, Ann H., Associate Professor, 1992; Doctor of Psychology in Clinical Psychology, Forrest Institute of Professional Psychology (1992); Master of Arts in Psychology, Counseling, and Guidance, University of Northern Colorado (1975); Bachelor of Science in Occupational Therapy, University of Florida (1970)

Noss, Emily Clark, Clinical Assistant Professor, 2003; Master of Arts in Speech-Language Pathology, University of Tennessee, Knoxville (2005); Bachelor of Arts in Speech-Language Pathology, University of Tennessee, Knoxville (2002)

Nutting, David F., Associate Professor, 1971, Doctor of Philosophy in Physiology, Duke University (1969)

Oliver, Hope E., Teaching Associate, 2006; Master of Education in Curriculum and Instruction, Tennessee State University (2004); Bachelor of Science in Dental Hygiene, Tennessee State University (1995); Associate of Applied Sciences in Dental Hygiene, Tennessee State University (1992)

Pifer, Linda W., Professor, 1964; Doctor of Philosophy in Microbiology, University of Mississippi Medical Center (1972)

Plyler, Patrick Norton, Professor, 2003; Doctor of Philosophy in Speech and Hearing Science, University of Tennessee, Knoxville (1998); Master of Arts in Audiology, University of Tennessee, Knoxville (1993); Bachelor of Science in Speech-Language Auditory Pathology, East Carolina University (1992)

Ramirez de Lynch, Luisa E., Physical Therapist, 2004; Doctor of Physical Therapy, University of Tennessee Health Science Center (2008); Bachelor of Science in Physical Therapy, University of Puerto Rico (1978)

Reed-Morgan, Eleta, Assistant Professor, 2001; Master of Science in Dental Hygiene, University of Tennessee Health Science Center (2008); Bachelor of Science in Dental Hygiene, University of Tennessee Health Science Center (1998)

Reynolds, Rebecca B., Associate Professor, 1994; Doctor of Education in Higher and Adult Education, University of Memphis (2008); Master of Health Administration, University of Memphis (1997); Bachelor of Science in Health Informatics and Information Management, University of Tennessee Health Science Center (1993)

Ritzline, Pamela Dawn, Associate Professor, 2007; Doctor of Education in Higher Education, Indiana University (2002); Master of Science in Physical Therapy, University of Indianapolis (1987)

Robertson, Ellen, Instructor, 2011; Master of Science in Occupational Therapy, Spalding University (2006); Bachelor of Arts in Exercise and Sports Science, University of North Carolina at Chapel Hill (2000)

Rose, Jonathan Michael, Assistant Professor, 2007; Master of Science in Physical Education, East Illinois University (1992); Certificate in Physical Therapy, Ohio State University (1997)

Ross, Linda, Associate Professor, 1994; Master of Science in Instruction and Curriculum, University of Memphis (1995); Bachelor of Science in Medical Technology, University of Tennessee Health Science Center (1975)

Saltuklaroglu, Tim, Associate Professor, 2004; Doctor of Philosophy in Communication Sciences & Disorders, East Carolina University (2004)

Schay, Nancy Lambden, Associate Professor, 2001; Doctor of Audiology, University of Tennessee, Knoxville (2003)

Schwarz, Ilsa, Professor, 2002; Doctor of Philosophy in Speech Pathology and Audiology, University of Oregon (1982); Master of Science in Speech Pathology and Audiology, University of Oregon (1979)

Scroggs, Reese Schiller, Associate Professor, 1992; Doctor of Philosophy in Pharmacology, University of Illinois, Chicago (1989)

Shahrabi-Farahani, Shokoufeh, Assistant Professor, 2013; Doctor of Medical Science, Harvard School of Dental Medicine (2013)

Sharp, Marcia Y., Associate Professor, 2006; Doctor of Education, University of Memphis (2011); Master of Business Administration, Webster University (2004); Bachelor of Science in Health Information Management, University of Tennessee Health Science Center (1993)

Smith, Darron T., Assistant Professor, 2013; Bachelor of Behavioral Science and Health, University of Utah (1994), Physician Assistant Certificate Program, University of Utah (1996), Master of Educational Leadership, Brigham Young University (2000), Doctor of Philosophy, University of Utah (2010)

Stegman, Elaine C., Assistant Professor, 1999; Master of Dental Hygiene, University of Tennessee Health Science Center (2010); Bachelor of Science in Dental Hygiene, University of Tennessee Health Science Center (1977)

Stewart, Jill, Teaching Associate, 2008; Doctor of Philosophy in Biokinesiology, University of Southern California (2010); Master of Science in Physical Therapy, University of Indianapolis (2000)

Tampas, Joanna W., Teaching Associate, 2001; Doctor of Philosophy in Speech and Hearing Science, University of Tennessee, Knoxville (2007); Master of Arts in Audiology, University of Tennessee, Knoxville (2002)

Tanner, Johnna, Assistant Professor, 1996, Bachelor of Science in Nursing, The University of Tennessee Health Science Center (1996), Master of Science in Physician Assistant Studies, Bethel College (2006)

Tekell, Lisa C., Assistant Professor, 2003; Transitional Doctor of Occupational Therapy, University of St. Augustine for Health Sciences (2009); Master of Science in Occupational Therapy, Western Michigan University (2000); Bachelor of Science in Psychology, St. Ambrose University (1997)

Warren, Richard E., Teaching Associate, 2006; Master of Health Administration, University of Memphis (2003); Bachelor of Science in Medical Technology, Mississippi State University (1986); Certificate in Medical Technology, Mississippi Baptist Medical Center (1986)

Williams, Nancy Johnson, Professor, 1980; Doctor of Education, University of Memphis (1992); Master of Science in Health, Physical Education, and Recreation, University of Memphis (1984); Bachelor of Science in Dental Hygiene, University of Tennessee Health Science Center (1980)

Williamson, Thomas, Assistant Professor, 2006; Bachelor of Science in Medical Technology, University of Tennessee Health Science Center (2003)

Won, Jong Ho, Assistant Professor, 2012; Doctor of Philosophy in Bioengineering, University of Washington (2010); Master of Science in Biomedical Engineering, Hanyang University (2005); Bachelor of Science in Mechanical Engineering, Hanyang University (2003)

Zachry, Anne H., Assistant Professor, 2012, Bachelor of Science in Occupational Therapy, University of Tennessee Health Science Center (1992), Master of Science in Leadership and Policy Studies, University of Memphis (1999), Doctor of Philosophy in Educational Psychology, University of Memphis

Zucker-Levin, Audrey R., Associate Professor, 1998; Doctor of Philosophy in Physical Therapy, New York University (2003); Master of Science in Physical Therapy, Long Island University (1988); Master of Business Administration, University of Tennessee at Martin (2008)



2013-2014 Catalog

COLLEGE *of* DENTISTRY

875 Union Avenue • Memphis, TN 38163 • Phone: (901) 448-6200
Website: www.uthsc.edu/dentistry/

Timothy L. Hottel
DDS, MS, MBA
Dean

William F. Slagle, DDS, MEd
Dean Emeritus
Franklin Garcia-Godoy, DDS, MS, PhD, PhD
Senior Executive Associate Dean, Research
J. Stansill Covington, DDS, MS
Associate Dean, Admissions/Student Affairs
Edward J. DeSchepper, MAEd, DDS, MSD
Associate Dean, Academic Affairs
Lloyd A. George, DDS, JD
Associate Dean, Clinical Affairs

David R. Cagna, DMD, MS
Associate Dean, Postgraduate Affairs
Daniel E. Brown, JD, CPA
Assistant Dean for Financial Affairs
John Seeberg, DMD
Assistant Dean for Clinical Affairs
Mark Scarbecz, MA, PhD
Assistant Dean for Institutional Affairs

GENERAL INFORMATION

History of the College

The College of Dentistry was founded in Nashville in 1878. It is the oldest dental college in the South, and the third oldest public college of dentistry in the United States. The college was located in Nashville until 1911, when, in order to secure larger facilities, the Board of Trustees of the University of Tennessee moved it to Memphis. In that year, authorities of the University of Memphis transferred all of its equipment and the good will of its Dental Department to the Board of Trustees of The University of Tennessee. Through this union, the facilities and equipment of the two institutions were merged into one college.

Mission of the College

The mission of the College of Dentistry is to improve human oral health through education, research, clinical care and public service.

Philosophy of Education

The faculty of the College of Dentistry is committed to the education of a health professional whose primary responsibility will be the prevention of oral disease and the maintenance of the oral health of the public. This encompasses the recruitment of well-qualified and motivated students who understand the need for a commitment to improving the welfare of those they serve, as well as the personal obligations of continuous development.

Because of the changing patterns of dental disease and the rapidly changing demographics reflected in the populations of the nation, the dentist of the future must be better prepared to change with the times. Students must develop a background that equips them to understand basic scientific principles and concepts, as well as an understanding of how these principles and concepts can change. The student must be able to apply scientific principles to the practice of dentistry and possess the inquiry that will promote advancement of this knowledge. The practitioner of the future must appreciate the value of research as an innovator of change, as well as the need to be a continuing student to remain current in scientific knowledge. The educational program provides opportunities to gain the basic knowledge and skills essential to the effective delivery of dental care. It also strives to prepare the student to apply this information in creative ways when dealing with unique clinical problems that do not have typical solutions.

A part of professional growth includes the recognition that the support of others within the profession is important to the welfare of the professional and that of the patient. Finally, the student must recognize that, by becoming a member of a profession, one assumes responsibilities which extend beyond oneself to include profession, patients, family, community, nation, and alma mater.

Biography of the Dean: Timothy L. Hottel, D.D.S., M.S., M.B.A., F.A.C.D.

Dr. Timothy L. Hottel is Dean of the University of Tennessee Health Science Center College of Dentistry and Professor, Department of Prosthodontics. He received his dental degree from Case Western Reserve University where he simultaneously earned an M.S. in biomedical engineering. After many years of service to CWRU and maintaining a successful private practice, Dr. Hottel relocated to Ft. Lauderdale to join the faculty of Nova Southeastern University College of Dentistry where he held such positions as Chair, Department of Restorative Dentistry, Assistant Dean for Clinical Affairs, Assistant Dean for External Affairs, Associate Dean for Academic and Financial Affairs, Section Chief of Restorative Services and Executive Associate Dean. In 2009, he moved to Memphis to become the 19th Dean at the College of Dentistry. He continues to be active in research, publications and speaks both nationally and internationally in the areas of practice management and implantology.

Administrative Structure of the College

The Dean of the College is assisted by a Senior Executive Associate Dean for Research, Associate Deans for academic affairs, clinical affairs, post graduate affairs, and admissions/student affairs, and assistant deans for financial affairs, clinical affairs, and institutional affairs. Diagnostic Sciences and Oral Medicine, Endodontics, Restorative Dentistry, Oral and Maxillofacial Surgery, Orthodontics, Pediatric Dentistry and Community Oral Health, Periodontology and Prosthodontics are each administered by a Department Chair and serve as the academic base for the faculty.

Organization of the Faculty

The faculty is organized by departments to constitute functional units in the major disciplines of the dental curriculum. In addition to the full-time and part-time faculty members in the College of Dentistry, the teaching personnel includes faculty of the Colleges of Medicine, Pharmacy and Graduate Health Sciences. A complete listing of faculty, by department is available on the College website at http://www.uthsc.edu/dentistry/Fac_Depts/.

Location and Physical Facilities

The College of Dentistry is fortunate to have excellent facilities for classroom, laboratory, and clinical instruction. The Humphreys General Education Building, built in 1977 and shared with other colleges on campus, provides 146,250 square feet of space for lecture, laboratory and self-study. It houses the lecture rooms and laboratories for all preclinical courses, except the gross anatomy laboratory which is located in the Wittenborg Anatomy Building, which is immediately adjacent to the Humphreys Building. The Humphreys Building also houses a computer laboratory which is utilized by both faculty and students. The Winfield Dunn Dental Clinical Building was completed and occupied in September 1977. This building contains 96,500 net square feet in five floors, providing 322 patient treatment chair units, administration and faculty offices, students' lounge, dental maintenance shop, dental clinical support laboratories, conference rooms, student laboratories, central sterilizing area, and other essential housekeeping and support activities necessary for the normal activities of a dental education facility. The main clinical teaching area was renovated and refurbished with state-of-the-art dental chairs and units in 2009-2010.

Professional Accreditation

The programs in dentistry are accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on the Recognition of Postsecondary Accreditation and by the United States Department of Education. This accreditation is the direct result of extensive periodic evaluation by the commission every seven years. Accreditation permits qualified graduates of the college to make application for all state and regional board examinations in the United States. As an institution of higher education, the University of Tennessee is accredited by the Southern Association of Colleges and Schools.

Alumni Affairs

The Dental Alumni Association is organized to promote the welfare of The University of Tennessee Health Science Center, the College of Dentistry and its graduates. The University of Tennessee Health Science Center College of Dentistry Alumni Association works in conjunction with The University of Tennessee Health Science Center Office of Alumni Affairs on a number of activities throughout the year. The Dental Alumni Association sponsors the MidSouth Dental Congress that is held each year in early spring. This meeting features nationally known speakers, presentation of the annual award of "Outstanding Alumnus," and class reunions.

The Office of Alumni Affairs arranges receptions for alumni at various state, regional, and national meetings.

Program Modification Statement

The faculty of the College of Dentistry reserves the right to make changes in curriculum, policy and procedures when, in its judgment, such changes are in best interest of students and the College of Dentistry. Ordinarily, a student may expect to receive a degree by meeting the requirements of the curriculum, as specified in the catalog currently in force when they first enter the college, or in any one subsequent catalog published while they are a student. However, the College of Dentistry is not obligated to fulfill this expectation, or to offer in any particular year, a course listed in the catalog.

College of Dentistry Policies and the Policies of the University of Tennessee Health Science Center

The College of Dentistry adheres to all Academic and Student Affairs Policies of the University of Tennessee Health Science Center as described at:

<https://academic.uthsc.edu/policy.php>

DEGREES AND CERTIFICATES OFFERED

The College of Dentistry offers a full time 4-year program of study leading to the Doctor of Dental Surgery (D.D.S.) degree.

Postdoctoral programs of study are offered in the following dental specialties, the first five of which can lead to the Master of Dental Science degree (offered through the College of Graduate Health Sciences):

- Endodontics Master of Dental Science degree (3 years)
- Orthodontics Master of Dental Science degree (3 years)
- Pediatric Dentistry Master of Dental Science degree (3 years)
- Periodontics Master of Dental Science degree (3 years)
- Prosthodontics Master of Dental Science degree (3 years)

- Advanced Education in General Dentistry Certificate (through Lutheran Medical Center; 1 year)
- Oral & Maxillofacial Surgery Certificate (4 years)
- Pediatric Dentistry Certificate (2 years)
- Endodontics Certificate (2 Years)

ACADEMIC CALENDAR 2013-2014

| Date | Activity | Class |
|---|--|----------------|
| July 1, 2013 | Tuition and Fees Due Fall 1 | |
| July 8, 2013 | Class Begins | D2, D3, D4 |
| July 15, 2013 | 14 th Day Count | |
| July 25-31, 2013 | Orientation Week | D1 |
| August 1, 2013 | Class Begins | D1 |
| August 1, 2013 | Tuition and Fees Due Fall 2 | |
| <i>Monday, September 2, 2013</i> | <i>University Holiday (Offices Closed)</i> | |
| Tuesday, September 3, 2013 | Fall Break Begins | D3, D4 |
| Friday, September 6, 2013 | Fall Break Ends | D3, D4 |
| Thursday, November 21, 2013 | Last Day of Classes | D1, D2 |
| Monday, November 25, 2013 | Thanksgiving Break Begins | D1, D2, D3, D4 |
| Friday, November 29, 2013 | Thanksgiving Break Ends | D1, D2, D3, D4 |
| Wednesday, December 4, 2013 | Last Day of Classes | D3, D4 |
| Friday, December 6, 2013 | Graduation | |
| <i>Monday, December 23, 2013- Friday, December 27, 2013</i> | <i>University Holiday (Offices Closed)</i> | |
| <i>Wednesday, January 1, 2014</i> | <i>University Holiday (Offices Closed)</i> | |
| January 2, 2014 | Tuition and Fees Due Spring 1 | |
| Monday, January 6, 2014 | Classes Resume | All |
| January 16, 2014 | 14 th Day Count | |
| <i>Monday, January 20, 2014</i> | <i>University Holiday (Offices Closed)</i> | |
| Monday, March 17, 2014 | Spring Break Begins | D1, D2, D3, D4 |
| Friday, March 21, 2014 | Spring Break Ends | D1, D2, D3, D4 |
| <i>Friday, April 18, 2014</i> | <i>University Holiday (Offices Closed)</i> | |
| Friday, May 16, 2014 | Classes End | D1, D2 |
| Friday, May 23, 2014 | Classes End | D4 |
| <i>Monday, May 26, 2014</i> | <i>Memorial Day (Offices Closed)</i> | |
| Thursday, May 29, 2014 | Classes End | D3 |
| Friday, May 30, 2014 | Graduation | D4 |

ADMISSION REQUIREMENTS

Office of Admissions

The Associate Dean for Admissions and Student Affairs, along with the Admissions Committee, review applications for admission to the undergraduate (D.D.S.) program. Applications are made through the American Dental Education Association's "AADSAS" centralized application service (http://www.adea.org/dental_education_pathways/aadsas/Applicants/Pages/default.aspx). Undergraduate admissions information is described in detail below. Prospective students should carefully review all admissions requirements, technical standards and application procedures before applying to the College of Dentistry. This information may also be found at <http://www.uthsc.edu/dentistry/Admissions/>.

Admission to the various advanced education programs (Endodontics, Oral and Maxillofacial Surgery, Orthodontics, Periodontology, Pediatric Dentistry, and Prosthodontics) is made either directly to the program or through a centralized service such as PASS or MATCH. Please contact the program directly for details.

The Admissions Committee formulates and recommends policies and procedures for admission to the College of Dentistry. The committee establishes criteria, procedures, and data used in appraising and selecting applicants for admission. This committee evaluates qualifications of applicants and submits names of selected candidates for admission to the dean. Information related to applicants such as personal credentials, information gained through interviews, acceptance or denials, and related matters are considered confidential remaining "in committee," except as reported through appropriate channels.

The College of Dentistry admits one class per year beginning in August. The program, which leads to the Doctor of Dental Surgery (D.D.S.) degree, is a program, four years in length which consists of nine months for the first two years and eleven months for the last two clinical years.

Much of the first two years is devoted to the biomedical sciences of anatomy, biochemistry, histology, microbiology, pathology, pharmacology, and physiology. Preclinical technical courses are also taught to achieve a close correlation of the basic sciences with the clinical disciplines.

As the state's flagship health science center, UTHSC aims to improve human health through education, research, clinical care, and public service. A variety of professional programs are offered through the six colleges that comprise the health science center. These programs prepare skilled health care professionals to meet the health care needs of the state of Tennessee and surrounding communities. To this end the campus welcomes applications from women and men of all races, creeds, and cultures who can pursue their studies in an environment that values intellectual curiosity, the pursuit of knowledge, excellence, compassion, and integrity. The College of Dentistry admissions committee selects highly qualified applicants, seeking to enroll students from all regions and from a variety of backgrounds so as to provide access to a broad range of students and to serve the needs of the state's diverse communities for skilled health care providers.

Fulfillment of the basic requirements does not guarantee admission. The College of Dentistry's Admissions Committee selects the applicants it considers best qualified for the study and practice of dentistry from the pool of applicants who meet the basic requirements.

The Admissions Committee reviews the cumulative grade point average, science grade point average, DAT score, interview, Pre-Professional Evaluation, and letters of recommendation. The years in school, any trend in grades, degrees attained, awards, and such personality characteristics as motivation and social awareness are also considered.

Applicants must be citizens or permanent residents of the United States at the time of application.

The College of Dentistry does not discriminate on the basis of age, race, sex, religion, creed, or handicapping condition.

Admission Requirements

- English Composition: 6 semester credit hours
- Biology (General): 8 semester credit hours
- Chemistry (General: Lecture and Lab): 8 semester credit hours
- Chemistry (Organic: Lecture and Lab): 8 semester credit hours
- Physics (Lecture and Lab): 8 semester credit hours
- Biochemistry (Lecture): 3 semester credit hours

Other Biology (Applicants must take ONE of the following):

1. Histology: 4 semester credit hours
2. Microbiology: 4 semester credit hours
3. Comparative Anatomy: 4 semester credit hours
4. Total: 97

In addition to the required courses, elective courses can be chosen from the following: genetics, comparative anatomy, developmental biology, cell biology, histology, microbiology, molecular biology, physiology, and neurobiology. Non-science elective courses may be chosen from: philosophy, business administration, economics, public speaking, computer science and courses in the social sciences.

All accepted students are expected to arrive on campus with a Bachelor's degree or higher. **Exceptions to this rule are possible, but they must be initiated by the candidate.** A candidate who is granted a waiver to this rule is notified in writing.

Grade Point Averages

A minimum grade point average of 2.75 is expected in all required subjects attempted and in cumulative course work. Due to the competition among applicants, classes are filled with those who have higher academic averages. Prospective applicants should strive to maintain a prescribed and cumulative grade point average **well above a 3.00** (on a 4.0 scale).

Personal Interview

A personal interview at the College of Dentistry, by invitation of the Admissions Committee, is necessary prior to acceptance. The interview will include a tour of the school, the receipt of information about financial aid, and the opportunity to talk with faculty and students. During the interview, the committee looks for evidence of such personal qualities as integrity, motivation, and maturity. The committee also expects applicants to have been exposed to the delivery of dental care as properly licensed participants (dental assistant or dental hygienist, for example) or as observers.

Advanced Placement Credit

We accept all CLEP and advanced placement credits as long as your undergraduate institution acknowledges and awards said credits.

Other

1. Applicants who have made grades of less than "C" in required courses are required to repeat those courses. (Both grades are utilized in computing grade point averages.)
2. All science courses must include the complete laboratory requirement concurrent to those courses.
3. Correspondence/ on-line courses are **not** accepted for required course work. Credit for elective courses from correspondence/ on-line sources is limited to 6 semester credit hours (9 quarter hours) and should be approved by the Office of Admissions prior to scheduling.
4. Each applicant is expected to comply with the general requirements of the college attended, including the non-academic requirements.
5. The Committee on Admissions reserves the right to require any candidate to complete additional course work irrespective of his or her academic average at the time of evaluation.
6. Hours and grades on activity courses (such as physical education, band, ROTC, etc.) are not utilized when calculating grade point averages.
7. Questions concerning course work and assistance in selecting specific courses may be answered by contacting the pre-health science advisor and/or the Office of Admissions at the UT Health Science Center College of Dentistry.

Letters of Recommendation

Letters of recommendation are not mandatory but are accepted through the AADSAS application **ONLY**. Please **do not** send additional letters of recommendation to the College of Dentistry.

The Admissions Committee values letters of recommendation from the applicant's college professors or pre-professional committee (if one exists) above all others.

Dental Admissions Test

All dental school applicants must take the Dental Admissions Test (DAT) that is administered by the American Dental Association. The test should be taken before applying. Dental Aptitude Text Examinees will be limited to three (3) opportunities to participate in the testing program. The Admissions Committee uses the DAT as a very important marker of applicant performance.

The DAT examines applicants in six (6) general areas: Biology, General Chemistry, Organic Chemistry, Reading Comprehension, Quantitative Reasoning and Perceptual Ability. Scores received in these areas will also be averaged resulting in two additional scores for Science and Academics for a total of eight scores. Scores in each area may range from 1-30 points for a maximum of 240 possible points. An applicant with a DAT score of 140 points or better will be considered for an interview.

Scores that are generally competitive are an Academic Average of 19 (or better) and no scores of 17 or below.

Communication with Applicants

It is the policy of the College of Dentistry that in matters of admission, the Associate Dean for Admissions and Student Affairs communicates **only** with the applicant.

Candidate Review Factors Used by the Admissions Committee

When considering candidates for possible admission, the Admissions Committee reviews the entire scope of information that is available on each applicant. For each candidate this includes the academic record (i.e., overall GPA, science GPA and last 30 semester credit hours GPA), Dental Admissions Test scores, responses to items on the Application Survey, interview assessment, and any other information provided by the candidate (e.g., personal statement, letters of recommendation, etc.). In addition, the committee will expect evidence of the following factors in making the difficult choices among candidates.

- Demonstrated exploration of the profession of dentistry
- Demonstrated commitment to community service
- Evidence of critical thinking and problem solving ability (e.g., performance in courses requiring this skill, such as laboratory segments or formal logic or research experiences)
- Full academic loads with evidence of a broad liberal arts and sciences education (i.e., fine arts, business, mathematics, humanities, computer science, etc.)
- A range of extracurricular activities, especially those demanding a significant leadership role
- Demonstrated ability to balance full academic schedules with extracurricular involvement and/or employment (i.e., effective and efficient management of time)

Application to the Undergraduate Program

All applications to the College of Dentistry must be submitted through AADSAS:

<https://portal.aadsasweb.org/>

Criminal Background Check

All newly accepted students must have an approved Criminal Background Check prior to matriculation at the University of Tennessee Health Science Center. Once accepted, applicants will receive information as to how to apply for the criminal background check. A potential exists that an accurate negative Criminal Background Check report could affect a student's enrollment status at UTHSC. The UTHSC Policy on Criminal Background Checks for Matriculating Students may be found

at: https://academic.uthsc.edu/policy_docs/criminal_background_checks.php.

Misrepresentation of Academic Credentials

Misrepresentation of academic credentials is a Class A misdemeanor in Tennessee. A person commits the offense of misrepresentation of academic credentials who, knowing that the statement is false and with the intent to secure employment at or admission to an institution of higher education in Tennessee, represents, orally or in writing, that such person: (1) has successfully completed the required course work for and has been awarded one or more degrees or diplomas from an accredited institution of higher education; (2) has successfully completed the required course work for and has been awarded one or more degrees or diplomas from a particular institution of higher education; or (3) has successfully completed the required course work for and has been awarded one or more degrees or diplomas in a particular field or specialty from an accredited institution of higher education.

Timeline for Applying to the University of Tennessee College of Dentistry

- **June 1, 2013: Admissions Cycle Begins**
Admission cycle begins through AADSAS. No materials should be sent to the College of Dentistry unless specifically requested by the Admissions Committee.
- **September 30, 2013: Application Deadline**
Note: Pre-professional evaluations can be submitted through AADSAS after this deadline but must be in before November 30, 2013.
- **July, 2013 - December, 2013: Notification of Interviews**
Applicants granted an interview are notified in writing (based on GPA, PGPA & DAT). Applicants are interviewed only once.
- **December 1, 2013: Admissions Committee Decisions**
Notification of acceptances begins and may continue into January, 2014. The Office of Admissions does not respond to unsolicited inquiries concerning admissions status.
- **January, 2014: Alternate lists established**
- **January, 2014 – March, 2014: Unsuccessful Applicants**
Unsuccessful applicants not receiving an invitation to join the class are notified in writing.
- **End of February, 2014: Financial Aid Priority Deadline**

Submit Free Application for Student Aid (FAFSA), available at: <http://www.fafsa.ed.gov/>.

Commitment to Diversity

The University of Tennessee Health Science Center and the College of Dentistry recognize the value of having an inclusive environment in which individuals from a variety of socio-economic backgrounds, races and ethnicities, physical and mental abilities, ages, creeds, cultures, and prior work/life experiences can learn and work together in an environment that values differences. To foster this environment, UTHSC has developed a series of guidelines for the hiring of faculty and staff and for the selection of students for its academic programs. These guidelines are designed both to promote campus diversity and to assure campus adherence to all federal and state laws related to discrimination and equal opportunity, including Title VI and VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) of 1990. More information about the UTHSC Diversity Policy may be found at: https://academic.uthsc.edu/policy_docs/diversity.php.

Accommodations for Religious Beliefs, Practices, and Observances

The University of Tennessee Health Science Center and the College of Dentistry acknowledges the diversity of its students and respects the rights of students to observe their religious beliefs and practices. UTHSC and the College of Dentistry will endeavor to provide reasonable accommodations relating to religious beliefs and practices in response to a formal written student request. However, accommodations cannot be guaranteed in instances where such would create an undue burden on faculty, a disproportionate negative effect on other students who are participating in the scheduled educational activity, or jeopardize patient care.

Students are encouraged to be proactive in reviewing college-specific assignments/activities in advance of matriculation/registration to determine whether these requirements might in some way conflict with their religious beliefs, practices or observances. Should such conflicts be in evidence, students should discuss possible options with the appropriate college official or faculty member. Reasonable accommodations may not be feasible in instances where there is a direct and insurmountable conflict between religious beliefs or observances and requirements of the College's academic programs.

It is the student's responsibility to make arrangements with the Course Director or Assistant Dean of Clinical Affairs as soon as possible, but no less than 30 days in advance of the religious holiday during which the student is requesting to be absent. It is also the student's responsibility to meet all course obligations. Such requests are required for any and all educational activities scheduled for the date(s) in question, e.g. classroom exercises, laboratory assignments, exams, clinical/experiential assignments, etc. Finally, students are obligated to abide by the policies and procedures on religious practices and observances of any given patient-care institution (i.e., hospital, clinical setting) in which they are completing a portion of their educational experience. If a potential conflict between a student's religious beliefs, practices or observations and institutional policy is identified, the student is to bring such to the attention of the director of the institution as soon as possible.

Technical Standards

The primary goal of the College of Dentistry is the preparation of students for the practice of dentistry. This includes pre-doctoral dental education, formal postdoctoral dental education, continuing education, and the preparation of all students for life-long learning.

As a health care specialty, primarily defined by anatomical boundaries, the practice of dentistry has unique requirements in that the accumulation of scientific knowledge must be accompanied by the simultaneous acquisition of essential diagnostic and clinical skills, management functions, and professional attitudes, ethics and behaviors. Such requirements are requisite to the provision of safe and effective management of the hard and soft tissue of the oral cavity and adjacent anatomical areas, including the teeth, jaws, and surrounding soft tissues.

The faculty of the College of Dentistry has a responsibility to graduate the best possible dental practitioners, residents, and graduate students; thus admission to educational programs in the College of Dentistry is offered only to those who present the highest qualifications for education and training in the art and science of dentistry. Applicants to programs of the College of Dentistry must possess the following general qualities: critical thinking, sound judgment, emotional stability and maturity, empathy, physical and mental stamina. Applicant must possess the ability to acquire knowledge, surgical skills and technical functions and use such knowledge, skills, and functions in a wide variety of didactic, laboratory, and clinical settings at a minimum level of competency, as defined by the college.

The faculty of the College of Dentistry has a responsibility for the welfare of the patients treated under the aegis of the college and the educational welfare of its students relative to the educational programs of the college. The Committee on Admissions of the College of Dentistry maintains that certain minimal technical standards must be present in applicants to the various educational programs of the college. A candidate for the Doctor of Dental Surgery degree, as well as dentists in the various advanced education programs of the college, must have the following essentials: motor skills; sensory/observational skills; communication skills; intellectual-conceptual, integrative, and quantitative abilities; and behavioral/social skills and professionalism.

1. Motor Skills

Candidates for admission to programs of the College of Dentistry must have sufficient motor function to perform and participate in didactic, pre-clinical technique, laboratory, and clinical procedures and exercises at a minimal level of competency, as defined by the college. At a minimum, this includes coordination of both gross and fine muscular movements, equilibrium, and touch. Candidates for admission to programs of the College of Dentistry must have manual dexterity, including full functioning wrists, hands, fingers, and arms.

2. Sensory/Observational Skills

Candidates for admission to programs of the College of Dentistry must have sufficient sensory/observational skills to perform and participate in didactic, preclinical technique, laboratory, and clinical procedures and exercises at a minimal level of competency, as defined by the college. At a minimum, this includes the ability to participate in didactic, preclinical technique and laboratory exercises and interact with patients in terms of observation and data gathering. Candidates for admission to programs of the College of Dentistry must have the functional use of visual and other sensory modalities.

3. Communication Skills

Candidates for admission to programs of the College of Dentistry must have sufficient communication skills to perform and participate in didactic, pre-clinical technique, laboratory, and clinical procedures at a minimal level of competency, as defined by the college. At a minimum, this includes the ability to communicate effectively in written and spoken English in classroom, laboratory, and clinical settings.

4. Intellectual/Conceptual, Integrative, and Qualitative Skills

Candidates for admission to programs of the College of Dentistry must have sufficient intellectual/conceptual, integrative, and qualitative skills to perform didactic, pre-clinical technique, laboratory, and clinical procedures and exercises at a minimal level of competency, as defined by the college. At a minimum, this includes the ability to manage data, solve problems, and make rational decisions regarding patient care in a timely manner.

5. Behavioral/Social Skills and Professionalism

Candidates for admission to programs of the College of Dentistry must have sufficient behavioral/social skills and professionalism to perform didactic, preclinical technique, laboratory, and clinical procedures at a minimal level of competency, as defined by the college. At a minimum, this includes the attributes of integrity, empathy, communication, and motivation, in addition to emotional maturity and stability, sound judgment, punctuality, and interpersonal skills. For this reason, candidates for admission to programs of the College of Dentistry must be adaptable, able to cope with stress, assertive, able to delegate responsibilities, meet deadlines and manage time, and function as part of a dental health care team.

Summary

In summary, the faculty of the College of Dentistry prepares students for the comprehensive practice of dentistry. The Committee on Admissions in the College of Dentistry, in accordance with Section 504 of the 1973 Vocational Rehabilitation Act and the Americans with Disabilities Act (PL101-336), has established the aforementioned essential functions of students in educational programs offered by the College of Dentistry.

The Committee on Admissions of the College of Dentistry will consider for admission applicants who demonstrate the ability to perform, or to learn to perform, the essential skills listed in this document. The college will strive to see that students or dentists with impaired intellectual, physical, or emotional functions do not place patients in jeopardy. Students will be judged not only on their scholastic accomplishments, but also on their physical and emotional capacities to meet the full requirements of the college's curriculum and to graduate as skilled and effective dental practitioners.

Upon admission, a student who discloses a properly certified disability will receive reasonable accommodation but must be able to perform the essential functions of the curriculum, as described in this document, either with or without reasonable accommodation. Students seeking accommodation should initiate their request in the College of Dentistry Office of Academic Affairs.

Admission to Advanced Standing

Admission of Foreign Dental Graduates

The College of Dentistry considers graduates from foreign dental schools for admission with advanced standing. Applicants may be admitted at a level commensurate with their qualifications as determined by faculty evaluations. In general, applicants are usually admitted at the beginning of the second year, which then requires a minimum of three years in residence to receive the D.D.S. degree. Applicants must be United States citizens or permanent residents of the United States at the time of application. Also, applicants must have taken NBDE Part I, NBDE Part II and TOEFL (if from a non-English speaking country) at the time of application. Space must also be available in the second year class. Inquiries concerning this program are best made in the spring of the year when space availability is usually known.

Applicants for Transfer with Advanced Standing

The College of Dentistry considers applications for transfer from students in good academic and professional standing from other dental education institutions accredited by the Commission on Dental Accreditation. Due to the nature of each college's curriculum, few requests for transfer can be accommodated. Additional information regarding application for advanced standing may be obtained from the Office of Admissions. Applicants must be citizens or permanent residents of the United States at the time of application.

Special Student Program

D.D.S. - Ph.D. The College of Dentistry, in cooperation with the College of Graduate Health Sciences, offers the opportunity for well-qualified students to pursue both the D.D.S. and Ph.D. degrees. However, applicants must meet the admission criteria of both colleges and be accepted for study by both. Once the student has identified a major course of graduate study, a curriculum plan may be jointly developed by the Academic Dean of the College of Graduate Health Sciences, the student's major Professor, and the Academic Dean of the College of Dentistry. Students electing this program are classified as special students in the College of Dentistry, and their course of study must be individualized. Stipends for graduate study must be arranged through the Academic Dean of the College of Graduate Health Sciences. The course of study leading to both degrees may vary from six to eight or more years.

TUITION, FEES, AND EXPENSES

Tuition and Fees

Official information regarding tuition and fees for the College of Dentistry is available at http://www.uthsc.edu/finance/bursar/colleges_fee_information.php. Cost of attendance estimates and information about loan applications are available at <http://www.uthsc.edu/finaid/Dentistry.php>.

Textbooks, Instruments and Materials

The textbooks, instruments, and materials, that must be utilized in the educational program and furnished by the student, are stipulated by the faculty annually following a comprehensive needs analysis. Designated dental materials and supplies are purchased from an outside vendor arranged by the classes. At the beginning of each academic year, instrument kits are rented from the College of Dentistry. Additionally, each course director may designate required textbooks. The Curriculum Committee reviews all textbook requests. Required textbooks are available in the bookstore but may be procured from any legitimate source. Supplementary textbooks are included on the textbook list; however, they are optional and not required for the course. The estimated expense for textbooks, instruments, and materials may be obtained from the Office of Admissions and Student Affairs, 875 Union Avenue, S-102 Dunn Building, Memphis, TN 38163, (901) 448-6200 or at <http://www.uthsc.edu/finaid/Dentistry.php>. Students may access the required books for any and all the courses in their professional program by going to the following link to the Bookstore on the UTHSC website: <http://www.uthsc.bncollege.com>.

Newly entering students must arrange to acquire a laptop computer that meets the specifications provided by the College (see <http://www.uthsc.edu/dentistry/Admissions/DDS/DDSgenpolicy.html>).

Students are expected to comply with the requirements concerning equipment and textbook purchases as a condition for admission and continued enrollment.

Computer Requirement (updated for Fall 2013)

Students enrolling in the first-year class of the College of Dentistry will be required to arrive with a laptop computer. This computer must be purchased before matriculation into the first year and can be acquired from any reputable source. The College of Dentistry has no provisions for providing a laptop to students whose own laptop proves to be inoperable upon arriving at UT. In addition, the College cannot assist students whose laptop does not meet the specifications and proves to be inadequate for the student to perform their required lessons. The laptop **must** meet the following specifications:

- Windows-based or Apple MacBook Pro laptop (with Window 7; recommended) (no netbooks)
- Intel Core Duo, Core 2 Duo or newer equivalent (Intel i3, i5 or i7)
- Windows 7 or Mac OS 10.7 (Lion)
- 4 gigabytes of memory or greater
- 13 inch or larger screen
- 250 gigabyte hard drive or larger
- Built-in RJ-45 Ethernet port OR an external jack for Ethernet RJ-45 connection
- Internal optical drive capable of playing and writing CDs and playing DVDs (combo drive) OR external drive with same capability
- Major manufacturer brand (i.e. Apple, Dell, Gateway, Sony, HP, or Toshiba)
- A 3-year "in home" warranty and accidental breakage and loss insurance are highly recommended
- Antivirus software will not be provided by the University but must be installed on the computer to access the campus network. We recommend the free antivirus software from Microsoft, called Microsoft Security Essentials, which is available at:
<http://windows.microsoft.com/en-us/windows/security-essentials-download>
- However, any well-known antivirus solution will be adequate.
- Mac computers can get ClamXav for free at: <http://www.clamxav.com/>
- Students are also required to have a standard 6 ft. long Ethernet cable

* Please note that the *MacBook Air* does not have an internal optical drive or built-in Ethernet and therefore does not meet the laptop requirements.

Questions regarding these requirements may be answered by contacting the UTHSC IT Help Desk at 901-448-2222.

SCHOLARSHIPS AND FUNDING

Students may access information regarding Financial Aid, including information on applying for financial aid, available scholarships, financial literacy counseling, and general student loan information at <http://www.uthsc.edu/finaid/>. For specific information regarding additional loans available to students in the College of Dentistry see <http://www.uthsc.edu/finaid/Dentistry.php>.

The College awards the following scholarship to students of the College of Dentistry on a competitive basis. Awards may vary each year depending upon the endowed account interest earned.

Kenneth L. Frame Award. Two students receive \$2,000 each. A criterion for this award is demonstrated excellence in the restorative area.

James T. Andrews Scholarships. Currently, four students receive \$2,000 each (\$8,000 annually). Eligibility for this award is demonstrated outstanding ability in restorative dentistry and financial need.

Cecily W. Tipton Memorial Scholarships. Currently, seven awards of \$2,000 each (\$14,000 annually) are given to Second, Third and Fourth year dental students. Students receiving these scholarships must have demonstrated academic excellence and financial need.

Hinman Scholarships. Two students each year receive \$3,000 each plus trip expenses to attend Hinman meeting in Atlanta. Eligibility for this award is based upon outstanding academic performance and financial need.

Andy Holt Scholarship. University of Tennessee Alumni Association awards an Andy Holt Scholarship to an incoming dental student. This award is a four-year award of \$10,000 per year for a total award of \$40,000.

Pierre Fauchard Academy Award. One student per year receives \$1,500. This is awarded to a senior dental student who has demonstrated outstanding leadership abilities.

R. Malcolm Overbey Student Leadership Award. Two students receive \$2,000 in recognition of exceptional leadership potential, scholastic achievement and personal and professional integrity.

Robert N. Wilson, D.D.S Scholarship. Three awards of \$2,000 to students who are married with at least one child and in the top 1/3 of the class.

Winfield C. Dunn, D.D.S. Scholarship. Two awards of \$2,000 to any student. Eligibility is scholastic, leadership and community involvement.

Doris Costello Bowyer Memorial Scholarship. The ASDA President receives a \$1,000 award for leadership and participation in campus activities.

Weems Scholarship. Two dental students receive \$2,500 each for academic accomplishments.

Russell O. and Fannie B. Ford Scholarship Award. One award to an incoming D-1 student of \$2,500 for academic accomplishment and leadership.

F. Payne Hardison, D.D.S. and Mark F. Hardison, D.D.S., Scholarship Award. One award of \$1,500 to a deserving student for scholastic and leadership ability.

Gerald R. Karr, D.D.S. Family Scholarship Award. One award of \$1,500 to a deserving student for academic accomplishment.

Lowell Dale Blevins Scholarship. One award of \$1,500 to a married student whose spouse is employed and demonstrates financial need and scholastic ability.

Delta Dental of Tennessee Scholarship. Three awards of \$2,500 given to a Tennessee student on the basis of scholastic ability and dedication to dentistry.

Delta Dental of Arkansas Scholarship. Three awards of \$2,000 given to an Arkansas student on the basis of scholastic ability and dedication to dentistry.

Dental Endowment Fund Scholarship. Ten awards of \$1,000 based upon financial need and dedication to dentistry.

Joseph W. Graham, Sr. Scholarship. One award of \$2,500 based upon scholastic ability, financial need and dedication to dentistry with emphasis on excellence in the restorative dentistry area.

W.C. 'Dub' Lady Scholarship. Two awards of \$1,500 given to students demonstrating scholastic ability, financial need, dedication to dentistry, and from the eastern part of the state of Tennessee.

O.D. and Ruth McKee Scholarship. One award of \$2,500 based upon scholastic ability, financial need, and dedication to dentistry. The recipient should be from Bradley County, Tennessee, or Benton County, Arkansas.

The Xi Psi Phi Fraternity Scholarship Award. One award of \$2,000 awarded to a graduating or third-year student based on scholastic ability and service to the ZIP fraternity.

Joe and Chris Miller Scholarship. One award of \$1,250 based upon scholastic ability and dedication to dentistry.

Joe and Pat Mosier Scholarship. One award of \$1,250 based upon financial need and dedication to dentistry with special consideration of those students that rank in the middle third of their class.

Dr. John T. (Jack) Camp Scholarship. Six students receive \$2,000 each. The criterion for this award is having been an athlete in college and upon the 'need' of each individual student.

Harold Cloogman, D.D.S. Scholarship. Eighteen students receive \$3,000 each based upon successful academic performance, financial need and residency in East Tennessee.

Helen Flanagan Fry Scholarship. One female student is awarded \$1,000 based upon scholastic ability with financial need a consideration and residency in the eastern part of the state of Tennessee.

Dr. Buford and Lynda Suffridge Scholarship. One student is awarded \$1,500 primarily on the basis of financial need and ranking in the middle third of their dental class.

Elizabeth Club Scholarship. One female student is awarded \$1,000 based on demonstrated financial need and residency in the state of Tennessee.

Dr. Maurice E. Petrovsky Scholarship. Awarded to an outstanding fourth-year student who has demonstrated 'the pursuit of perfection in the field of Fixed Prosthodontics.

Dr. Roy Smith Scholarship. One student is awarded \$2,000 based on academic performance and residency in West Tennessee.

Redwine-Mitchell Scholarship. One student is awarded \$1,250 based on academic performance, financial need and residency in East Tennessee.

Dr. and Mrs. Noah David Britton III Scholarship. One student is awarded \$1,250 based on academic ability, financial need and dedication to dentistry.

Dr. and Mrs. Thomas Onstott Scholarship: One award of \$1,500 to any student based upon financial need and scholastic ability.

Second District Dental Society Award. Two awards of \$1,500 is given to any D-2, D-3 or D-4 student based upon scholastic ability, and dedication to dentistry as a career and profession with preference to students from the Second Dental District.

Dr. Earl Henry Scholarship Award. One award of \$1,500 is given to a D-4 student who is going into US armed forces (Navy preferred) from Second District, with financial need.

Dr. Norris Howell Scholarship Award. One award of \$1,500 is given to any dental student based upon scholastic ability, financial need and dedication to dentistry as a career and profession.

Information regarding the availability and process for securing an emergency loan is available at http://www.uthsc.edu/finance/bursar/loan_information.php.

POLICIES

Attendance Policy

The student attendance policy for the predoctoral DDS program is described at <http://www.uthsc.edu/dentistry/Academics/StudentAttendancePolicy.pdf>.

Grading Performance Level

The official grades utilized by the College of Dentistry and reported to the registrar are: A, B+, B, C+, C, D, F, P, W, WP, WF, I, and AU (Audit). The quality value assigned to the grade is outlined as follows:

| Grade | Quality Points Per Credit Hour |
|--------------|---------------------------------------|
| A | 4.00 |
| B+ | 3.33 |
| B | 3.00 |
| C+ | 2.33 |
| C | 2.00 |
| D | 1.00 |
| F | 0 |
| P | 0 |

A “**W**” (indicating withdrawal from the course) is recorded in instances in which the student withdraws prior to the midpoint of the course. The letters ‘**WP**’ or ‘**WF**’ will be recorded to indicate pass or failure in those instances in which a student withdraws after the midpoint in the course but prior to 70% of the course being completed. The designation of ‘**I**’ will be used in those instances in which a student is unable to complete a course at the scheduled time because of an acceptable reason. The designations must be removed from the record by the date stipulated by the Dean but no later than the end of the term following that in which the incomplete was received. Failure on the part of a student to remove an ‘**I**’ with a passing grade within the time limit allowed will result in the grade of ‘**F**’ being reported and recorded as a permanent grade.

Dropping/Adding or Auditing a Course

Since the curriculum of the College of Dentistry is a “core curriculum,” dropping or adding of a core course is not permitted with the exception of designated elective courses. Auditing of core courses is only permitted if the student is given special student status and must be arranged through the Office of Academic Affairs.

Student Identification Badges

Students of the College of Dentistry must wear their UT Health Science Center Identification Badge at all times when on campus or when participating in off-campus educational programs of the College.

Policy Regarding Integrated Examinations for D-1 and D-2 Students

Integrated examinations are given at periodic intervals (every 2, 3 or 4 weeks) during the D-1 and D-2 years. The content of each courses' contribution to the examination is established by the course director and covers the information taught since the last examination. The questions are generally multiple choice and the examination will be of approximately 2 hours duration and taken on a computer. A cumulative final examination will be given at the end of each term and will consist of questions from the entire course. It is the responsibility of each course director to establish the criteria for the awarding of course grades, the role of examinations in the determination of those grades and communicating this information to the student on the first day of each course or via the course's Blackboard website. Any concerns relative to individual examination questions, criteria for course evaluation or final grades should be directed to the appropriate course director. Students are expected to take examinations as scheduled. Students unable to take an examination as scheduled because of an emergency situation (hospitalization or death in the immediate family) must notify the Office of Academic Affairs prior to the examination. Excused absences from integrated exams will only be provided for emergency situations as described above.

Policy on Student Classroom Activities

It is a guiding principle of the College of Dentistry that students attend class for the purpose of learning the information being taught and/or mastering the psychomotor skills that are necessary to practice dentistry. While in class (including laboratories), students are not to study or review other information that is not germane to the specific material being presented. Students may only use written media or any electronic devices (including, but not limited to cell phones, PDA's, computers or other internet-capable electronics) during class to assist in learning the specific topics being presented in class or labs. Any use of the UT computer network must be in compliance with the University of Tennessee's Information Technology Acceptable Use policy. Faculty members may prohibit the presence or use of any written media or any electronic device in their class or laboratory if they believe that those items may be a distraction from the teaching and learning process. Violation of any of this policy will be considered unprofessional conduct and an ethical breach.

Faculty Teaching Material

It is the policy of the University of Tennessee that “When a University employee develops mediated course materials ... ownership of the materials belongs to the creator, who retains the copyright and the rights to update, edit, or otherwise revise the mediated course materials and to place a time limit upon the use of the materials... The right to control distribution is a right of ownership.” (Statement of Policy on Patents, Copyrights, and Other Intellectual Property; Adopted by the University of Tennessee Board of Trustees, Oct 19, 1984, and Amended June 19, 2003). This policy establishes that faculty teaching materials are the intellectual property of the individual faculty member. Faculty may choose to share these materials with students and post such materials on University servers for the use of the students. However, such distribution to students is at the discretion of the faculty and students have no right to copy or otherwise use such materials without the consent of the faculty.

COMMUNICATION

E-mail is used as a method of official College communication with students. Official College communication includes but is not limited to e-mail from the administration and faculty including decisions of the Dean regarding promotion, graduation, repetition of courses and/or academic years and dismissal. The College e-mail policy is available at <http://www.uthsc.edu/dentistry/Academics/student-email.pdf>.

PROFESSIONALISM

It is the expectation of all students enrolled at the UTHSC to maintain the high ethical and professional standards of the various disciplines of the health professions. Failure to do so may subject a student to suspension or other appropriate remedial action by the University as outlined in *CenterScope*, Maintenance of Ethical and Professional Standards of the Health Professions (<https://www.uthsc.edu/centerscope/Centerscope.pdf>).

Professional Standards

In order to create and maintain the best possible professional atmosphere at The University of Tennessee Health Science Center College of Dentistry, it is necessary that faculty and students adhere to standards of professionalism, courtesy, and ethics. Common courtesy and mutual respect are essential to enhance the educational experience, and to decrease stress and misunderstanding. Each faculty member should serve as a professional role model to students, and establish a positive rapport in all educational settings. Each student should recognize their responsibility in professional growth, and maintain an attitude that strengthens that development. Compliance with these standards is the moral obligation of all dental faculty and all dental students:

- A. Respect and courtesy are essential in dealing with patients, students, faculty, and staff.
- B. Disagreement among faculty and/or students should be addressed in a private setting away from patient-care areas.
- C. If a student's dentistry is clinically acceptable and approved by an instructor, future instructors working with the patient should respect the original approval.
- D. Negative remarks should not be made in a patient's presence, and significant negative criticism should be given in a private setting.
- E. Adherence to proper clinical attire and dress code is mandatory.
- F. Substance abuse will not be allowed in the College of Dentistry.
- G. Promptness with adequate preparation for appointments and clinical assignments must be a priority of students and faculty.
- H. The use of profanity in dealing with patients, faculty, students and staff will not be tolerated.
- I. When patients cancel or break appointments, the appropriate faculty and staff must be notified promptly.
- J. The evaluation (grade) given for procedures should be discussed at the time of grading, so that the student will understand any deficiency, and how they may improve future performance.
- K. Faculty should promote confidence in students through positive reinforcement.
- L. Patients should have full explanation of the process and procedures involved in their treatment. Patients must be informed of the risks and benefits incurred.

The College policy on professionalism, collegiality and student advocacy is available at <http://www.uthsc.edu/dentistry/Academics/ProfessionalismPolicy.PDF>.

In the event that a student believes that faculty or staff have engaged in unprofessional behavior inconsistent with the above standards or behavior that is incompatible with a positive and supportive learning environment, the student should follow the guidelines outlined in the UTHSC Policy on Preventing Student Mistreatment. This policy is available at: https://academic.uthsc.edu/policy_docs/preventing_student_mistreatment.php.

Student Drug and Alcohol Policy

It is the policy of the University of Tennessee to maintain a safe and healthy environment for its students and employees. Therefore the University prohibits being under the influence of, or the unlawful use, manufacture, possession, distribution or dispensing of drugs ("controlled substances" as defined in the Controlled Substances Act, 21, U.S.C. 812) and alcohol on university property or during university activities. More information about the UTHSC Policy on Student Drug and Alcohol Use may be found at:

https://academic.uthsc.edu/policy_docs/student_drug_alcohol.php

PROGRESS, PROMOTION, AND GRADUATION

Students must achieve satisfactory academic progress in order to receive federal financial aid. The Financial Aid Department's satisfactory academic progress standards mirror the academic progress policies of each individual college. A student who is found to not be making academic progress by their college is not eligible for federal financial aid. This rule may also apply to state, institutional, and private funds. For more information refer to *CenterScope*, Satisfactory Academic Progress, (<https://www.uthsc.edu/centerscope/Centerscope.pdf>).

Within the College of Dentistry, good academic standing leading to promotion requires that each student must earn a passing grade for each course and demonstrate competence in specific clinical activities required in each year of the curriculum. In addition, students are expected to achieve and maintain a cumulative grade point average of no less than 2.0 while enrolled with a minimum number of grades of 'D'. A grade point average of 2.0 is expected in laboratory technique courses by the end of the second year. Furthermore, students are required to pass Part I of the National Board Dental Examinations to meet the criteria for promotion to the third year. Student promotion is determined by the evaluation of academic progress by the Student Status Committee through recommendations to the Dean. Other factors considered in the promotion decision are the personal and professional qualities of the dental student. The National Board Dental Examinations, developed and administered by the American Dental Association's Joint Commission on National Dental Examinations, are given in two parts. Part I is normally administered to all students during the spring term of the second year. Part II of the examination, covering clinical subjects, is administered to fourth year students prior to graduation.

Students must pass Part I and II in order to be eligible for licensure in any state or territory of the United States.

Policy Governing Student Standing

The policies governing student standing are described at <http://www.uthsc.edu/dentistry/Academics/StudentStatus.pdf>.

Withdrawal

The Administration reserves the right to dismiss or request the withdrawal of any student at any time, whenever it is apparent that the student is ineffectual academically, or lacks the necessary talent to pursue the curriculum in dentistry. Formal withdrawal is a prerequisite to honorable dismissal, or consideration for re-entrance to this institution, and must be approved by the Dean of the College of Dentistry. Students intending to withdraw from the college must notify the Associate Dean for Student Affairs and obtain a withdrawal form.

When the appropriate signatures have been obtained, the student must request an exit interview with the Associate Dean for Student Affairs. The Associate Dean for Student Affairs will sign the withdrawal form and forward it to the Dean for his/her signature. Once the Dean's approval has been obtained, the form is returned to the Registrar's Office for final processing.

Leave of Absence

The College of Dentistry recognizes that absences may be necessary during a portion of an academic program and strives to accommodate such absences to enable students to continue in, and complete their academic programs. Students should be aware, however, that it may be difficult for the College to provide suitable options for makeup of missed assignments/activities even with short term absences, given the intensity, complexity and fast pace of the D.D.S. programs.

Students are advised to review the Attendance Policy of the College carefully when an absence is necessary and consult with the Associate Dean for Academic Affairs and the Associate Dean for Student Affairs if an absence will be prolonged. Prolonged absences may result in a requirement to repeat a significant portion of the program and/or to petition for readmission. Prolonged absences may also affect eligibility for loan deferment and may require that students be listed as withdrawn. Additional information about the UTHSC leave of absence policy may be found at

https://academic.uthsc.edu/policy_docs/loa_withdrawal.php.

Requirements for Graduation

To qualify for the Doctor of Dental Surgery (DDS) degree, the student:

- a. Must have satisfactorily completed all required courses of the curriculum, including the didactic, laboratory, clinical and practical courses, to the satisfaction of the faculty;
- b. Must have an overall grade point average (GPA) of 2.00 (on a scale of 4.00);
- c. Must have satisfactorily completed all required comprehensive and clinical examinations.
- d. Must have acted in a reasonable, ethical and professional manner.
- e. Must have been enrolled in the College of Dentistry for all of the senior year.
- f. Must have discharged all financial and administrative obligations to the University.

Attendance at commencement is mandatory for students completing degrees. Those students unable to attend commencement must file a written request with the Dean to receive a degree in absentia. Permission for receiving a degree in absentia can only be granted by the Dean.

Graduation with Honors

The College confers to the graduates with the cumulative grade point average (GPA) that ranks in the top 2.5% of the class the distinction of graduation with “**highest honors**.” Students with cumulative grade point averages that rank in the next highest 5.0% qualify for the designation of graduation with “**high honors**.” Graduates of the College of Dentistry who attain a cumulative grade point average that ranks in the next highest 10% qualify for the designation of graduation with “**honors**.” As the “honors” distinction must be reported to the registrar during the spring of the senior year, the GPA established at the end of the fall term of the senior year is used to determine students qualifying for graduation with honors. Students who enter the College with “advanced standing” and are permitted to enter in the second year are eligible for the honors designation; however, they will not supplant a student who has been enrolled in all 4 years of the curriculum.

Appeal Process

The recommendation regarding academic status, promotion, and graduation of a student is the responsibility of the Student Status Committee. The committee meets each term to evaluate student progress and make appropriate recommendations to the Dean of the College of Dentistry for a decision regarding academic status, promotion, and graduation. The decision of the Dean is sent to the student's official UT e-mail address by the Academic Dean.

A student has the right to appeal an adverse decision when the student can produce evidence or information that (1) circumstances existed at the time of the Committee's deliberations that were not known by the Student Status Committee and that evidence or information, if known by the Committee, would have influenced the Committee's recommendation regarding the student's academic and professional performance; (2) an error existed in the student's record that was used in reaching the adverse recommendation; or (3) the recommendation created unequal treatment for the student compared to the same or similar circumstances among the student's peers. Adverse decisions resulting from failure to pass Part I of the National Board Dental Examination may not be appealed.

An appeal for an evaluation of the Student Status Committee's recommendation by the Student Appeals Committee must be requested by the student, in writing, to the Dean of the College of Dentistry within five (5) working days of receipt of the original decision. The request must include the basis for requesting the appeal for reconsideration and include any supporting documentation. The Dean will evaluate the validity of the request. Failure to provide a concrete basis for the appeal, which must contain information not previously considered by the Student Status Committee, will result in rejection of the appeal request. In general, explanations of circumstances that led to poor academic performance will not constitute sufficient grounds for an appeals hearing unless such explanations put in question the validity of the original decision.

If the appeal is accepted by the Dean, he/she will ask the Associate Dean for Academic Affairs to convene the Student Appeals Committee within ten (10) working days of, or as soon as feasible after the receipt of all appeal requests which are accepted by the Dean. The student will be informed, in writing, of the date, time, and place of the Student Appeals Committee meeting.

The student must attend the Student Appeals Committee meeting and be prepared to submit any additional pertinent information as well as respond to information previously considered by the Student Status Committee. The student has the right to be accompanied by any person(s), excluding legal counsel, who can provide relevant information in support of the appeal.

The Student Appeals Committee will make a final recommendation to the Dean of the College of Dentistry. The Dean, or the Dean's designee, will notify the student of the appeal decision within five (5) working days of or as soon as feasible after, the Student Appeals Committee meeting.

In the event that a student's appeal within the College of Dentistry regarding an adverse decision is denied, the student has the right to appeal to the Chancellor of the University of Tennessee Health Science Center, as described in the UTHSC Academic Appeal Policy at https://academic.uthsc.edu/policy_docs/academic_appeal.php.

Addressing Student Complaints

The specific policies addressing student complaint procedures at the University of Tennessee Health Science Center and the College of Dentistry can be found in the Student Handbook, CenterScope, at: <https://www.uthsc.edu/centerscope/Centerscope.pdf>.

Honor Code and Honor Council

The Honor Code of The University of Tennessee Health Science Center can be found in the Student Handbook, CenterScope, at <https://www.uthsc.edu/centerscope/Centerscope.pdf>.

SPECIAL AWARDS, HONORS AND DISCIPLINE-SPECIFIC ACTIVITIES

Lectureships

The Frank P. Bowyer Visiting Lectureship was established in 1980 through the generosity of Dr. Bowyer and his colleagues in the dental profession. Dr. Bowyer was an alumnus, past trustee of the University, and past president of the American Dental Association. This endowment makes possible an annual lecture by a prominent individual on the topic of organized dentistry, dental education, community dentistry, dental practice management or other appropriate health care issues. The lectures are primarily for third and fourth year dental students, and add an important dimension to the educational environment of the College of Dentistry.

Research Symposia

The Hinman Student Research Symposium is held annually which features oral and poster presentations of research findings by dental students and postgraduate trainees from the University of Tennessee and from dental students across the United States and Canada. The Symposium is co-sponsored by the College of Dentistry and the Thomas P. Hinman Dental Society. The objectives include the recognition of student achievements in dental research and the encouragement of dental research careers and education.

Fellowships, Honorariums, Associations, and Awards

Alumni Dental Student Research Fellowship

The award supported by the UT Dental Alumni Association enables dental students, selected on a competitive basis, to engage in individualized research projects during the summer period. The maximum stipend is \$2,500. Funds may also be available to defray the cost of travel for scientific presentations at national meetings.

Richard L. Sullivan Award for Dental Research

Completed projects of students receiving Summer Research Fellowships are judged at the end of the summer. The winner of this competition is awarded the Richard Sullivan Award and receives \$400 and a plaque.

Omicron Kappa Upsilon Dental Honor Society

Membership in this national honor fraternity reflects recognition of high scholastic standing and consistent, earnest study throughout the curriculum. To be eligible for election a student must rank in the upper twenty percent of his/her class scholastically, be of high moral character, and show promise of making significant contributions to his/her profession after graduation.

The Richard Doggett Dean and Marguerite Taylor Dean Honorary Odontological Society

This honor society, dedicated to promoting high standards in the profession, was founded in 1948 in recognition of Dr. Richard Doggett Dean and his wife, Dr. Marguerite Taylor Dean, for long and faithful service to the University and dental education.

Dean's List for Scholastic Achievement

Each academic year, students who rank in the top 25% of their class are placed on the "Dean's List."

College of Dentistry Student Awards

- Academy of Dental Materials Award
- Academy of General Dentistry Award
- Academy of Operative Dentistry Award
- Academy of Osseointegration-Outstanding Student in Implant Dentistry Award
- American Academy of Oral Medicine Award
- American Academy of Oral and Maxillofacial Pathology Award
- American Academy of Oral and Maxillofacial Radiology Award
- American Academy of Pediatric Dentistry Award
- American Academy of Periodontology Award
- American Association of Endodontists Award
- American Association of Oral and Maxillofacial Surgeons Award
- American Association of Oral Biologists Award American Association of Orthodontists Award
- American Association of Women Dentists Award
- American College of Dentists Outstanding Leader Award
- American College of Prosthodontics Award American Student Dental Association's Award
- Certificate of Merit Awards
- Dean's Award for Clinical Excellence
- Dean's Leadership Award
- Dean's Odontological Society Dental Faculty Award
- Dentsply Merit Award in Removable Prosthodontics
- Dr. Maurice Petrovsky Excellence in Fixed Prosthodontics Award
- Imhotep Society
- International College of Dentists Achievement Award
- Omicron Kappa Upsilon Awards
- Pediatric Dentistry Alumni Association Award
- Pierre Fauchard Academy Award
- R. Malcolm Overby Student Leadership Award
- Sidney S. Friedman, Sr. Periodontology Award
- Southeastern Academy of Prosthodontics Award
- Student National Dental Association's Leadership Award
- Tennessee Society of Pediatric Dentistry Award
- The University of Tennessee Health Science Center, Student Service Award
- Whip Mix-Hanau 'Best of the Best' Prosthodontic

Student Organizations and Activities

A complete list of student organizations and activities can be found in the Student Handbook, *CenterScope*.

CURRICULUM

The Board of Trustees of The University of Tennessee has approved a four-year academic program to prepare dental professionals for the practice of general dentistry. Class enrollment is presently limited to a maximum of 90 students who matriculate in late July or early-August of each year.

Early in the curriculum, students are introduced to basic sciences and preclinical dental sciences that provide an understanding of the human organism in health and disease. These courses offer the foundation for advancement into patient care, which is achieved largely in the last two years of the curriculum. Basic science instruction is offered by faculty from the College of Medicine and College of Dentistry, while dental course instruction is offered by faculty of the College of Dentistry with assistance from faculty of other colleges of the Health Science Center Memphis campus.

The professional dental curriculum is designed to offer those entering the general practice of dentistry a sound foundation of preparation. Those completing the course of study and receiving the D.D.S. degree are qualified to apply for dental specialty programs or positions in governmental agencies that require these credentials.

Program Description

Entering students (clinical) are expected to demonstrate a high level of interest and commitment to learning. This is evidenced by a professional attitude toward assigned tasks, concern for the patient's interest and well-being, time commitment to clinical care of patients, receptivity to instruction, professional interactions with fellow students, faculty and staff of the College, and willingness to do more than just the minimum. All clinical performance related to patient care must be rated clinically acceptable (C or better grade).

Students should realize the need to seek advice or help in situations where they do not have sufficient knowledge or experience. Faculty have the responsibility to be aware of students' progress in knowledge and skills as well as students' needs and to intervene in patient care when appropriate. Student progress in the development of diagnostic, treatment planning and treatment skills are based upon a demonstrated effectiveness in the successful management and treatment of assigned clinical patients and the successful completion of clinical competency assessments. These assessments require the students to demonstrate independent diagnostic problem solving, appropriate clinical judgment, and application of clinical skills in an appropriate manner.

Based upon their level of training, students must demonstrate successful and adequate progress in the various areas of clinical practice to be recommended for promotion/graduation. These areas include the demonstrated management of a comprehensive care program for a portfolio of patients who are selected and assigned based upon diversity of their clinical care needs. The student must effectively use available clinical time to achieve a record of clinical productivity, a high patient acceptance rating, and demonstrated ability to professionally manage the diagnostic treatment planning and treatment needs of his/her assigned patients. The student must be conversant on the clinical subjects relevant to his/her practice and capable of defending his/her diagnostic and treatment decisions. Demonstration of professional behavior consistent with good ethical conduct is expected and a *must*.

Students who do not progress satisfactorily as measured by these criteria may be delayed in their promotion. Failure to make satisfactory progress may require that a remedial program may be designed and implemented at the discretion of the faculty. If offered, this remedial program will be designed to offer specific help in the specific areas of identified deficiency. Repetition of a school year may be indicated at the recommendation of the faculty and at the discretion of the Dean.

The graduating senior must have demonstrated that they are competent in performing general dentistry skills and possess an adequate degree of basic science knowledge. The graduate must be capable of applying that knowledge and skill appropriately, and have a proven record of success in the professional and ethical management of his/her dental school practice. Collectively the faculty approves the readiness of the graduate to enter practice.

Educational Philosophy and Plan for the Clinical Teaching Program

The purpose of the clinical component of the curriculum is to prepare dental students for the practice of general dentistry. The clinical teaching program prepares graduates to diagnose, treatment plan, ethically manage and treat patients, at first with close faculty assistance and ultimately with an increasing degree of independent initiative and confidence. This involves the acquisition of basic and clinical science knowledge and development of pre-clinical surgical and technique skills, sound clinical judgment, good interpersonal relations, efficient management of time and resources and an acceptable level of technical proficiency. This approach is predicated on the concept that learning accompanies doing and, therefore, applied clinic practice is essential to acquire the various skills that are necessary for a successful general practice. Concurrently, application of knowledge offers opportunities for objective evaluation and assessment of the quality of the care provided to assigned patients.

The clinical patient care program is dedicated to the achievement of clinical competence through two (2) major objectives: the pursuit of a philosophy of comprehensive patient care and the attainment of an optimal level of quantitative and qualitative clinical competence. It is the dual responsibility of the student with faculty supervision to fashion the clinical experience in such a manner that both objectives are met. Each student will be aided by a Clinical Practice leader, the Coordinator of Patient Care and the Clinical Director. The benefits of an applied philosophy of comprehensive patient care are realized concurrently with the attainment of evidence indicating that all College of Dentistry competency statements are met along with adequate clinical experience. It is the policy of the College of Dentistry to provide comprehensive care for its dental patients whenever possible. Comprehensive care is defined as the treatment needed to restore the patient's stomatognathic system to optimal appearance and function. It is expected that undergraduate dental students provide their portion of a patient's care in the school's clinics and arrange the referral(s) of their patients to the school's graduate clinics as needed. Any treatments that School clinics cannot provide are to be referred to private dental practice and students are expected to track the patient's treatment progress so any necessary follow-up care by the College may be accomplished in a timely manner. Patients not desiring referral care are to be offered alternative care whenever possible.

2013-2014 Curriculum Schedule

The four-year curriculum consists of eight terms.

First-year students begin the academic year the first week of August (18-week Fall term). Second-year, third-year and fourth year students begin the academic year the first week of July (22-week Fall term).

All students have a 19-week Spring term that begins in early January. Second, third and fourth year students have a fall break in early September. All students have a break during the Thanksgiving holidays and a spring break in mid-March. Specific course dates are published annually by the college.

The number of credit hours associated with a course is established by the Office of the Associate Dean for Academic Affairs, commensurate with the amount of student work required to achieve an intended learning outcome, and is consistent with the UTHSC Credit Hour Policy described at: https://academic.uthsc.edu/policy_docs/credit_hour.php.

The curriculum as listed below represents the comprehensive format of study leading to the Doctor of Dental Surgery degree. However, the Curriculum Committee is constantly reviewing the curriculum to fulfill the academic needs of the profession. Thus, the actual course of study may reflect modifications on a year-to-year basis.

FIRST YEAR SCHEDULE

| Fall Term | Credit Hours |
|--|---------------------|
| ANAT 101 Histology for Dental Students | 4 |
| DSOM 101 Biomedical Clinical Conference (BCC), I | 1 (P/F) |
| RESD 101 Operative Dentistry (Lecture)* | 1 |
| RESD 102 Operative Dentistry (Lab)* | 1 |
| RESD 103 Dental Morphology (Lecture) | 2 |
| RESD 104 Dental Morphology (Lab) | 2 |
| RESD 105 Tooth Preparation | 2 (P/F) |
| MSCI 101 Biochemistry | 4 |
| PDCH 103 Human Values & Personal Ethics | 1 (P/F) |
| RESD 106 Introduction to Dentistry | 1 (P/F) |
| PDCH 107 Informatics and Evaluation of Dental Literature | 1 |
| PERI 103 Pathobiology | 2 |
| RESD 113 Biomaterials* | 1 |
| DSOM 105 Dependency & Addiction in the Dental Profession | 1 (P/F) |

| Spring Term | Credit Hours |
|---|---------------------|
| ANAT 103 Neuroanatomy | 2 |
| ANAT 105 Gross Anatomy | 6 |
| DSOM 103 Biomedical Clinical Conference (BCC), II | 1 (P/F) |
| ORTH 107 Craniofacial Growth & Human Development | 2 |
| PHYS 101 Physiology | 5 |
| PROS 119 Occlusion (Lecture) | 2 |
| PROS 120 Occlusion (Lab) | 2 |
| RESD 107 Intro to Clinical Practice I | 1 (P/F) |

SECOND YEAR SCHEDULE

| Fall Term | Credit Hours |
|--|---------------------|
| DSOM 201 Basic Dental Radiology | 2 |
| DSOM 203 Patient Evaluation* | 2 |
| DSOM 207 General/Systemic Pathology | 4 |
| DSOM 211 Biomedical Clinical Conference (BBC), III | 1 (P/F) |
| ENDO 201 Essential Endodontics I (Lecture) | 1 |
| ENDO 202 Essential Endodontics I (Lab) | 1 |
| MSCI 201 Microbiology | 4 |
| PDCH 201 Introduction to Pediatric Dentistry* | 2 |
| PERI 203 Clinical Periodontology | 3 |
| PHAR 205 Dental Pharmacology | 4 |
| PROS 221 Prosthodontics-Complete Denture (Lecture) | 1 |
| PROS 222 Prosthodontics-Complete Denture (Lab) | 1 |
| PROS 223 Prosthodontics-Removable Partial Denture (Lecture)* | 1 |
| PROS 224 Prosthodontics-Removable Partial Denture (Lab)* | 1 |
| PROS 225 Fixed Prosthodontics I (Lecture) | 2 |
| PROS 226 Fixed Prosthodontics I (Lab) | 2 |
| PROS 227 Fixed Prosthodontics II (Lecture)* | 1 |
| PROS 228 Fixed Prosthodontics II (Lab)* | 1 |
| RESD 203 Operative Composite Resin (Lecture) | 1 |
| RESD 204 Operative Composite Resin (Lab) | 1 |
| ORTH 203 Development of Occlusion | 1 |

**Continues through Spring Term*

| Spring Term | Credit Hours |
|---|---------------------|
| ENDO 203 Essential Endodontics II (Lecture) | 1 |
| ENDO 204 Essential Endodontics II (Lab) | 1 |
| RESO 205 Complete Intracoronary Preparations/Restorations (Lecture) | 1 |
| RESO 206 Complete Intracoronary Preparations/Restorations (Lab) | 1 |
| RESO 207 Introduction to Clinical Practice II | 2(P/F) |
| OMSU 201 Pain Control | 4 |
| OMSU 203 Principles of Oral & Maxillofacial Surgery | 2 |
| PDCH 202 Pediatric Dentistry Lab | 1 |
| PDCH 204 Human Behavior & Dental Practice | 1 |
| PROS 230 Basic Life Support (CPR) | 1 (P/F) |
| PROS 231 Oral Implantology | 1 |
| RESO 208 Esthetic Dentistry (Lecture) | 1 |
| RESO 209 Esthetic Dentistry (Lab) | 1 (P/F) |

THIRD YEAR SCHEDULE

| Fall Term | Credit Hours |
|--|---------------------|
| DSOM 301 Clinical Correlation Conference | 1 |
| DSOM 302 Oral Diagnosis Clinic* | 3 |
| DSOM 311 Basic Oral & Maxillofacial Pathology* | 5 |
| DSOM 313 Special Patient Care | 2 |
| RESO 301 Dental Auxiliary Utilization | 1 (P/F) |
| ENDO 302 Endodontics Clinic* | 1 |
| RESO 304 D.A.U. Clinic* | 1 (P/F) |
| RESO 306 Operative Clinic* | 5 |
| OMSU 302 Oral Surgery Clinic* | 3 |
| ORTH 301 Orthodontic Diagnosis and Treatment | 2 |
| ORTH 302 Orthodontic Appliance Fabrication (Lab) | 1 |
| PDCH 301 Introduction to Practice Management | 1 (P/F) |
| PDCH 302 Pediatric Dental Clinic* | 2 |
| PDCH 304 Patient Centered Dentistry | 1 |

Third year, Fall Term cont.

| | |
|--|---------|
| PERI 301 Basic Periodontal Surgery | 2 |
| PERI 302 Periodontics Clinic* | 3 |
| PROS 308 Fixed Prosthodontics Clinic* | 3 |
| PROS 310 Removable Prosthodontics Clinic* | 4 |
| PROS 330 Professionalism & Practice Management (Clinical Practice) | 1 (P/F) |
| PROS 334 CPR Recertification | 1 (P/F) |

| Spring Term | Credit Hours |
|---|---------------------|
| DSOM 305 Advanced Dental Radiology | 1 |
| ORTH 304 Orthodontic Clinic | 1 (P/F) |
| PDCH 303 Professional Ethics and the Patient | 1 (P/F) |
| PDCH 307 Dental Jurisprudence | 1 |
| PERI 303 Special Problems in Periodontal Therapy | 2 |
| PROS 309 Advanced Prosthodontics | 1 |
| PROS 313 Management of TMD | 1 |
| PROS 336 Professionalism & Practice Management II (Clinical Practice) | 1 (P/F) |
| ENDO 301 Clinical Endodontics | 1 |

**Continues through Spring Term*

FOURTH YEAR SCHEDULE

Fall Term

Credit Hours

| | |
|--|---------|
| DSOM 401 Clinical Pathological Conference (CPC) | 1 |
| DSOM 402 Oral Diagnosis Clinic* | 2 |
| DSOM 407 Oral Medicine & Therapeutics | 1 |
| DSOM 409 Advanced Treatment Planning | 1 (P/F) |
| ENDO 401 Advanced Endodontics | 1 |
| ENDO 402 Endodontics Clinic* | 2 |
| RESD 403 Advanced Operative Dentistry | 1 (P/F) |
| RESD 404 D.A.U. Clinic* | 1 (P/F) |
| RESD 406 Operative Dentistry Clinic* | 5 |
| OMSU 402 Oral Surgery Clinic* | 3 |
| OMSU 403 Advanced Oral & Maxillofacial Surgery | 2 |
| PDCH 401 Practice Implementation and Management | 2 |
| PDCH 402 Pediatric Dental Clinic* | 2 |
| PDCH 403 Community Dentistry | 1 |
| PDCH 407 Community Based Dental Education* | 2 (P/F) |
| PERI 402 Periodontics Clinic* | 3 |
| PHAR 403 Applied Pharmacology | 1 (P/F) |
| RESD 401 Advanced Biomaterials | 1 |
| PROS 406 Fixed Prosthodontics Clinic* | 5 |
| PROS 407 Principles of Prosthodontics Practice | 1 (P/F) |
| PROS 408 Removable Prosthodontics Clinic* | 5 |
| PROS 430 Professionalism & Practice Management (Clinical Practice) | 1 (P/F) |
| PROS 434 CPR Recertification II | 1 (P/F) |

Spring Term Credit Hours

| | |
|---|---------|
| PDCH 405 Applied Practice Management | 1 (P/F) |
| PROS 409 Advanced TMD & Sleep Disordered Breathing | 1 (P/F) |
| PROS 432 Professionalism & Practice Management II (Clinical Practice) | 1 (P/F) |

**Continues through Spring Term*

COURSE DESCRIPTIONS

Basic Science Departments

The faculty of the College of Medicine offers the basic science courses that contribute to the dental curriculum.

Department of Anatomy and Neurobiology

Department Chair & Professor: Matthew Ennis, Ph.D.

- ANAT 101 Histology for Dental Students** *Credit: 4 (41½-46½) A-F* Included are basic cytology, special organ histology and selected topics of embryology relevant to dentistry. In addition to lectures, the laboratories allow direct observation of prepared microscope slides. *Mode of delivery:* Lecture and Lab. *Pre-Requisites:* Acceptance into Dental Program *Offered:* Fall. *Instructor of Record:* Robert Waters (Fall).
- ANAT 103 Neuroanatomy** *Credit: 2 (22-9) A-F* Lectures are supplemented with projected slides. The major structures and relationships of the brain (including cranial nerves) and the spinal cord are presented. *Mode of delivery:* Lecture and Lab. *Pre-Requisites:* ANAT 101 *Offered:* Spring. *Instructor of Record:* Reese Scroggs (Spring).
- ANAT 105 Gross Anatomy** *Credit: 6 (55½-70½) A-F* This course is an introduction to human gross anatomy by means of dissection supplemented with lectures. Slightly more than one half the course is devoted to detailed study of the head and neck. *Mode of delivery:* Lecture and Lab. *Pre-Requisites:* ANAT 101 *Offered:* Spring. *Instructor of Record:* Randall Nelson (Spring).

Department of Molecular Sciences

Department Chair & Professor: Gerald I. Byrne, Ph.D.

- MSCI 101 Biochemistry** *Credit: 4 (64-0) A-F* The course consists of a series of lectures that offers a basis for an understanding of modern biochemistry as well as establishing a background for courses occurring later in the curriculum. Although major emphasis is on fundamental aspects of biochemistry, additional emphasis is given to areas of special importance in oral biology. The laboratory emphasizes analytical techniques applied to oral tissues and secretions. *Mode of delivery:* Lecture. *Pre-Requisites:* Accepted into Dental Program *Offered:* Fall. *Instructor of Record:* Mustafa Dabbous (Fall).
- MSCI 201 Microbiology** *Credit: 4 (49-0) A-F* Lectures and laboratory exercises present the fundamental aspects of microbial structure, growth, and genetics, with a survey of sterilization, disinfection and chemotherapy. Microbial virulence, nonspecific host resistance, and the principles of immunology precede a survey of disease producing microorganisms. Emphasis is placed on those affecting the oral cavity or with oral manifestations, and those of public health interest which might affect the dentist. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 Courses *Offered:* Fall. *Instructor of Record:* Marko Radic (Fall).

Department of Physiology

Department Chair & Professor: Gabor Tigyi, Ph.D.

- PHYS 101 Physiology** *Credit: 5 (61-13) A-F* The properties, composition, and function of living matter and its reactions to internal and external agents are presented. The course is composed of lectures and laboratory experiences concerning the following organ systems: circulatory, respiratory, renal, digestive, and endocrine. The mechanism of integration of the various physiological systems is stressed. *Mode of delivery:* Lecture and conference. *Pre-Requisites:* D-1 Fall Courses *Offered:* Spring. *Instructor of Record:* David Nutting (Spring).

Department of Pharmacology

Department Chair & Professor: Burt M. Sharp, M.D.

- PHAR 205 Dental Pharmacology** *Credit: 4 (55-0) A-F* This course is designed to introduce the student to the basic principles of drug action, drug dose-response relationships and drug interactions to provide a sound basis for understanding practical dental therapeutics. Drug categories most important for beginning dental practice are introduced in this course, such as drugs affecting the autonomic nervous system, analgesic and anesthesia drugs, and antibiotics. This course later concentrates on categories of drugs that may be encountered in dental practice, such as drugs administered for therapeutic medical treatment of patients that may affect dental health or dental practice. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 Courses *Offered:* Fall. *Instructor of Record:* Dr. Parker Suttle (Fall).
- PHAR 403 Applied Pharmacology** *Credit: 1 (1-8) Pass/Fail* This pharmacology course is scheduled as part of the preparation for passage of the Dental National Board Exam, Part II. The course concentrates on the drugs that are most important for clinical practice - antibiotics, analgesics, anesthetics, and anti-inflammatory drugs- and on drug interactions pertinent to dentistry. The course incorporates self-study of information through a website, review with Faculty, qualifying evaluation and participation in (case) seminars on drug interactions as it applies specifically to dental practice. *Mode of delivery:* Lecture Online. *Pre-Requisites:* The second year course, Dental Pharmacology and D-1, D-2 and D-3 Courses *Offered:* Fall. *Instructor of Record:* Trevor Sweatman (Fall).

Diagnostic Sciences and Oral Medicine

Department Chair and Professor: Cesar Migliorati, D.D.S., M.S., Ph.D.

Division of Oral Diagnosis

- DSOM 101 Biomedical Clinical Conference (BCC), I** *Credit: 1 (8-0) Pass/Fail* This course is a conference demonstrating the clinical correlation between the biochemistry and histology of developmental disturbances. *Mode of delivery:* Lecture. *Pre-Requisites:* Acceptance into Dental Program *Offered:* Fall. *Instructor of Record:* David Tipton (Fall).
- DSOM 103 Biomedical Clinical Conference (BCC), II** *Credit: 1 (10-0) Pass/Fail* This course is a conference relating to principles being taught in the D-1 basic science courses in physiology and gross anatomy. *Mode of delivery:* Lecture. *Pre-Requisites:* DSOM 101 *Offered:* Spring. *Instructor of Record:* David Tipton (Spring).
- DSOM 105 Dependency & Addiction in the Dental Profession** *Credit: 1 (8-0) Pass/Fail* This course is designed to provide a basic understanding of chemical dependency/addiction, including its prevention, recognition, treatment, and impact upon the dental profession. *Mode of delivery:* Lecture. *Pre-Requisites:* Acceptance into Dental Program *Offered:* Fall. *Instructor of Record:* Kenneth Anderson (Fall).
- DSOM 201 Basic Dental Radiology** *Credit: 2 (24-13) A-F* This course is designed to acquaint the student with the principles of x-ray production, the biological effect of x-radiation, radiation hygiene and protection, the making of intraoral radiographs, and the interpretation of these radiographs. Upon completion of this course the student will be knowledgeable about the proper use of this important diagnostic tool in the dentist's armamentarium. This is a prerequisite course for Advanced Oral Radiology (DSOM 305). *Mode of delivery:* Lecture and Lab. *Pre-Requisites:* D-1 Courses *Offered:* Fall. *Instructor of Record:* Werner Shintaku (Fall).
- DSOM 203 Patient Evaluation** *Credit: 2 (15-15) A-F* A basic Oral Diagnosis course that introduces students to patient evaluation and examination techniques, the proper recording of collected exam data, the formulation of medical and dental summary diagnoses/problem lists, the planning of treatment alternatives for the patient's dental diagnoses (taking the medical diagnoses into consideration), and the presentation of the treatment plan(s) to the patient. *Mode of delivery:* Lecture and Clinical simulation. *Pre-Requisites:* D-1 Courses *Offered:* Fall through Spring. *Instructor of Record:* Mary Aubertin (Fall); Mary Aubertin (Spring).

- DSOM 211 Biomedical Clinical Conference (BCC), III** *Credit: 1 (8-0) Pass/Fail* This course is a conference demonstrating that a thorough understanding of basic principles of microbiology and pathology is essential in the daily practice of clinical dentistry. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 Courses *Offered:* Fall. *Instructor of Record:* David Tipton (Fall).
- DSOM 301 Clinical Correlation Conference** *Credit: 1 (16-0) A-F* This course provides a practical approach for the dental student by presenting case histories of patients with the most frequently seen medical problems. Clinical medical specialists will discuss specific disease processes, and the relationship of each medical disease and its therapy to the dental plan of treatment. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall. *Instructor of Record:* Cesar Migliorati (Fall).
- DSOM 302 Oral Diagnosis Clinic** *Credit: 3 (0-114) A-F* The Junior Oral Diagnosis clinic emphasizes the student's development of historical and clinical examination skills and his formulation of an appropriate dental treatment plan based upon each patient's dental and medical diagnoses. Students work in a closely supervised atmosphere and are scheduled briefly into a dental emergency service where patients needing immediate care are diagnosed and treated. *Mode of delivery:* Patient care. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall through Spring. *Instructor of Record:* Marjorie Woods (Fall); Marjorie Woods (Spring).
- DSOM 305 Advanced Dental Radiology** *Credit: 1 (9-5) A-F* This course introduces the principles and techniques involved in intraoral-occlusal and extraoral radiography with special emphasis on the use of the dental panoramic x-ray machine. The indications and criteria for prescribing these radiographic views are presented as well as material concerning the interpretation of the resultant radiographs. Other lecture topics include TMJ radiography, intraoral and extraoral film processing errors, processing artifacts and radiographic quality assurance programs designed for the modern dental office. *Mode of delivery:* Lecture and Lab. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Spring. *Instructor of Record:* Werner Shintaku (Spring).
- DSOM 313 Special Patient Care** *Credit: 2 (32-0) A-F* This course provides dental students with knowledge of the special needs of patients who are mentally retarded, medically compromised, or elderly. The course is presented by a series of guest lecturers. An interdisciplinary approach is taken in an effort to familiarize dental students with the need for consultation, as well as the varied aspects of health care for this population. In addition, several lectures focus on specific handicapping conditions, and highlight cultural and social aspects of providing dental health care for handicapped and elderly patients. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall. *Instructor of Record:* Marjorie Woods (Fall).
- DSOM 402 Oral Diagnosis Clinic** *Credit: 2 (0-101) A-F* The Senior Oral Diagnosis clinic emphasizes the student's development of clinical judgment and patient management skills. Students are considered to be clinical interns and they examine, diagnose, and plan treatment for patients with minimal Faculty supervision. They are also scheduled into a dental emergency service where patients needing immediate care are diagnosed and treated. *Mode of delivery:* Patient-care. *Pre-Requisites:* D-1, D-2, and D-3 Courses *Offered:* Fall through Spring. *Instructor of Record:* Marjorie Woods (Fall); Marjorie Woods (Spring).
- DSOM 407 Oral Medicine & Therapeutics** *Credit: 1 (12-0) A-F* This course deals primarily with the treatment of selected diseases and conditions, other than caries and periodontal disease, in which the dentist plays a major role in the recognition, diagnosis and management of the disorder. Emphasis will be given to drug indications, contraindications, interactions, dosages, and related therapeutic issues. Clinical information and testing will utilize a case-base format, similar to that found on Part II of the National Board Dental Examination. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1, D-2, and D-3 Courses *Offered:* Fall. *Instructor of Record:* Yeshwant Rawal (Fall).
- DSOM 409 Advanced Treatment Planning** *Credit: 1 (11-0) Pass/Fail* This course is designed to prepare the senior dental student for more difficult or complex patient treatment planning. A multidisciplinary group of Faculty will present complex treatment cases/treatment considerations in a seminar format designed to encourage student participation. Emphasis will be placed on appropriate treatment options and sequencing. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1, D-2, and D-3 Courses *Offered:* Fall. *Instructor of Record:* Paul Gregory (Fall).

Division of Oral Pathology

- DSOM 207 General/Systemic Pathology** *Credit: 4 (66-0) A-F* The course in general pathology instructs the student in the basic concepts of human disease and presents facts about the more commonly occurring non-oral diseases, particularly those pertinent to the practice of dentistry. *Mode of delivery: Lecture. Pre-Requisites: D-1 Courses Offered: Fall. Instructor of Record: Kenneth Anderson (Fall).*
- DSOM 311 Basic Oral & Maxillofacial Pathology** *Credit: 5 (70-0) A-F* This course presents the terminology and working concepts of the epidemiology, etiology, pathogenesis, clinical signs and symptoms, histology, radiology (if applicable), treatment, and prognosis of oral and perioral lesions. The course demonstrates the relationship between the basic sciences and clinical oral pathology. *Mode of delivery: Lecture. Pre-Requisites: D-1 and D-2 Courses Offered: Fall through Spring. Instructor of Record: Kenneth Anderson (Fall); Kenneth Anderson (Spring).*
- DSOM 401 Clinical Pathological Conference** *Credit: 1 (14-0) A-F* This course utilizes the clinical pathology conference format to teach students to diagnose and manage various forms of oral pathology. Case histories are utilized to present clinical diagnostic problems. *Mode of delivery: Lecture. Pre-Requisites: D-1, D-2, and D-3 Courses Offered: Fall. Instructor of Record: Yeshwant Rawal (Fall).*

Department of Endodontics

Department Chair and Professor: Adam Lloyd, B.D.S., M.S.

- ENDO 201 Essential Endodontics I (Lecture)** *Credit: 1 (9-0) A-F* This is a basic course in endodontic technique. This course runs concurrently with the Lab in Essential Endodontics I (ENDO 202). Although the major portion of the course covers clinical skills, biology of the normal and irreversibly injured pulp will be introduced. Much of the lecture material will cover basic clinical techniques, which will enable the new clinician to treat pulpal and periapical problems in the clinic. The main emphasis will be on root canal preparation, canal debridement, disinfection and obturation of the root canal space. *Mode of delivery: Lecture. Pre-Requisites: D-1 Courses Offered: Fall. Instructor of Record: Adam Lloyd (Fall).*
- ENDO 202 Essential Endodontics I (Lab)** *Credit: 1 (0-25) A-F* This is a fundamental Lab in endodontics that runs concurrently with the Lecture in Essential Endodontics I (ENDO 201). Students will be taught contemporary canal preparation techniques involving state-of-the-art nickel titanium rotary endodontic instruments, along with a historically relevant obturation technique—lateral compaction of cold gutta percha. *Mode of delivery: Technique lab. Pre-Requisites: D-1 Courses Offered: Fall. Instructor of Record: Adam Lloyd (Fall).*
- ENDO 203 Essential Endodontics II (Lecture)** *Credit: 1 (5-0) A-F* This course in endodontic technique builds on the foundational knowledge from the previous term. This course runs concurrently with the Lab in Essential Endodontics II (ENDO 204). Emphasis will be placed on restoring teeth to adequate clinical function, dealing with the endodontic emergency and pain control. The importance of accurate clinical diagnosis will be highlighted as the biologic basis and foundation for endodontic treatment reinforcing the terminology and special pulp sensibility tests previously studied through the case-based learning modules. *Mode of delivery: Lecture. Pre-Requisites: Endo 201 Offered: Spring. Instructor of Record: Adam Lloyd (Spring).*
- ENDO 204 Essential Endodontics II (Lab)** *Credit: 1 (0-23) A-F* This is a preclinical Lab in endodontics that furthers understanding of endodontic techniques, focusing on multi-rooted teeth. This course runs concurrently with the Lecture in Essential Endodontics II (ENDO 203). Students will be taught contemporary canal preparation techniques involving state-of-the-art nickel-titanium rotary endodontic instruments, canal debridement and disinfection, obturation and post preparation. Training will also be provided in restoring endodontically treated teeth to adequate clinical function. *Mode of delivery: Technique lab. Pre-Requisites: Endo202 Offered: Spring. Instructor of Record: Adam Lloyd (Spring).*

- ENDO 301 Clinical Endodontics** *Credit: 1 (9-0)* A-F The clinical Lecture in endodontics is designed to introduce the dental student to a multitude of endodontically-related conditions and their management. Dealing with pulpal and periapical pathoses and decision making based on tooth restorability will be an everyday practice throughout a dental career and the importance of making sound, ethical treatment choices with best evidence will be emphasized. In addition, problem-solving in diagnostic dilemmas, endodontic retreatment, relevance of implants in endodontic practice, adjunct techniques, and dealing with dentoalveolar trauma in the permanent tooth. *Mode of delivery:* Lecture. *Pre-Requisites:* Endo 203 and 204 *Offered:* Spring. *Instructor of Record:* Adam Lloyd (Fall); Adam Lloyd (Spring).
- ENDO 302 Endodontic Clinic** *Credit: 1 (0-42)* A-F The third and fourth year students have the opportunity to perform clinical endodontics under the supervision of Instructors. In addition, students receive training in differential diagnosis, treatment planning and management of the emergency patient. *Mode of delivery:* Patient care. *Pre-Requisites:* Endo 301 and D-1 and D-2 Courses *Offered:* Fall through Spring. *Instructor of Record:* Adam Lloyd (Fall); Adam Lloyd (Spring).
- ENDO 401 Advanced Endodontics** *Credit: 1 (10-3)* A-F A Lecture is offered at the time when students have had exposure to the endodontic clinical experience. The course is designed to broaden the student's knowledge by examining the biological aspects of endodontics and enhance skills in the management of the more complex problems. In addition, new materials, alternate techniques and controversial subjects are examined with respect to the more routine clinical practice. *Mode of delivery:* Lecture and Seminar. *Pre-Requisites:* D-1, D-2, and D-3 Courses *Offered:* Fall. *Instructor of Record:* Adam Lloyd (Fall).
- ENDO 402 Endodontic Clinic** *Credit: 2 (0-78)* A-F The third and fourth year students have the opportunity to perform clinical endodontics under the supervision of Instructors. In addition, students receive training in differential diagnosis, treatment planning and management of the emergency patient. *Mode of delivery:* Patient care. *Pre-Requisites:* D-1, D-2, and D-3 Courses *Offered:* Fall through Spring. *Instructor of Record:* Adam Lloyd (Fall); Adam Lloyd (Spring).

Department of Restorative Dentistry

Department Chair and Professor: Janet A. Harrison, D.D.S.

- RESD 101 Operative Dentistry (Lecture)** *Credit: 1 (18-0)* A-F Lectures include classification and nomenclature of cavities; cavity preparation; instruments and instrumentation; histological structure of the teeth in relation to cavity preparation and selection of restorative materials. The manipulation of amalgam, cement bases, cavity liners, pulpal protection, pin retained amalgams and rubber dam application is introduced in this course. *Mode of delivery:* Lecture. *Pre-Requisites:* Acceptance into Dental Program *Offered:* Fall through Spring. *Instructor of Record:* Janet Harrison (Fall); Janet Harrison (Spring).
- RESD 102 Operative Dentistry (Lab)** *Credit: 1 (0-53)* A-F Laboratory exercises include cavity preparation for amalgam in ivory teeth and extracted natural teeth. Amalgam restorations are placed and carved in all of the preparations. Amalgams placed in natural teeth are polished. The manipulation and application of cement bases, liners and cavity varnish are included. *Mode of delivery:* Technique lab. *Pre-Requisites:* Acceptance into Dental Program *Offered:* Fall through Spring. *Instructor of Record:* Daranee Versluis (Fall); Daranee Versluis (Spring).
- RESD 103 Dental Morphology (Lecture)** *Credit: 2 (27-0)* A-F The Dental Morphology courses are presented in two closely related segments, These courses are a prerequisite for all dental courses. The Lecture is designed to familiarize the student with dental terminology, internal and external tooth anatomy, tooth form, tooth function and supporting structures. The lectures also cover development of the dentitions (deciduous and adult) as well as variations or anomalies of tooth morphology and alignment of the dentition. *Mode of delivery:* Lecture. *Pre-Requisites:* The Dental Morphology courses are presented in two closely related segments, These courses are a prerequisite for all dental courses. *Offered:* Fall. *Instructor of Record:* Barry Owens (Fall).

- RESD 104 Dental Morphology (Lab)** *Credit: 2 (0-87) A-F* The Lab reinforces the concepts taught in the lecture segment through waxing of individual anatomical tooth forms. The student learns the handling of instruments and proper wax temperature control through waxing exercises. After completion of exercises the student will wax fourteen individual teeth, seven maxillary and seven mandibular. The student should know the morphology of all human teeth and be prepared to reproduce that knowledge in sculptured wax. *Mode of delivery:* Technique lab. *Pre-Requisites:* The Dental Morphology courses are presented in two closely related segments, These courses are a prerequisite for all dental courses. *Offered:* Fall. *Instructor of Record:* Barry Owens (Fall).
- RESD 105 Tooth Preparation** *Credit: 2 (13-37) Pass/Fail* A practice course in Restorative Dentistry, this course provides an initial experience that presents and trains students to perform simulated clinical procedures in Operative Dentistry and Fixed Prosthodontics as well as training of motor skills and cognitive skills. Additionally, ergonomics will be emphasized. *Mode of delivery:* Lecture and Simulation laboratory. *Pre-Requisites:* Acceptance into Dental Program *Offered:* Fall. *Instructor of Record:* Wainscott Hollis (Fall).
- RESD 106 Introduction to Dentistry** *Credit: 1 (10-0) Pass/Fail* This course demonstrates how relationships are affected by such factors as intra- and inter-personal concerns, cultural bias, and the social skills of the dentists, patients and auxiliaries. It assists dental students in their responsiveness to the needs of others and provides a cohesive framework within which students can interpret, understand and respond to patient behaviors. *Mode of delivery:* Lecture. *Pre-Requisites:* Acceptance into Dental Program *Offered:* Fall. *Instructor of Record:* Barry Owens (Fall).
- RESD 107 Introduction to Clinical Practice I** *Credit: 1 (2-15) Pass/Fail* This course blocks students in the clinic during the Spring Term of the first year. It will enable each student to become familiar with multiple experiences in clinic protocol, infection control protocol, patient record-keeping protocol, and face-to-face interactions with patients. It is further expected that each student will assist D-3 and D-4 students in patient treatment under the supervision of the attending Faculty. *Mode of delivery:* Lecture and clinical rotation. *Pre-Requisites:* Fall D-1 Courses *Offered:* Spring. *Instructor of Record:* Ashanti Braxton (Spring).
- RESD 203 Operative Composite Resin (Lecture)** *Credit: 1 (9-0) A-F* This course is designed to provide the student with information about tooth-colored restorative therapy (i.e., composite resins, glass ionomers, and supporting materials). The selected clinical vignettes demonstrate case selection and management of the dentition using Class II, III, IV, V, preventive resin restoration (PRR), and direct veneer restoration procedures and techniques. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 Courses *Offered:* Fall. *Instructor of Record:* Waletha Wasson (Fall).
- RESD 204 Operative Composite Resin (Lab)** *Credit: 1 (0-24) A-F* This course consists of tooth-colored restorative laboratory projects. The projects will be taught in a step-by-step format for preparation design and placement (inserting, contouring, finishing, and contouring) of conservative tooth-colored restoratives (i.e., composite resin, glass ionomer, and supporting materials). The procedures to be taught in the laboratory are: (1) sealants, (2) PRR, (3) Class II, III, IV, V preparation designs and placement of composite resin material, (4) Class preparation design and placement of glass ionomer material, (5) direct composite veneers, (6) management of root caries, (7) detection and management of caries, and (8) resin bonding exercises. Class lab exercises will be done on natural teeth mounted in stone. All practical exercises will be done on plastic teeth mounted in stone. *Mode of delivery:* Technique lab. *Pre-Requisites:* D-1 Courses *Offered:* Fall. *Instructor of Record:* Waletha Wasson (Fall).
- RESD 205 Complex Intracoronal Preparations/Restorations (Lecture)** *Credit: 1 (8-0) A-F* This course will expand upon the principles of amalgam and composite resin preparations/restorations. Preparation design for compound and complex restorations will be discussed, including the indications and usage of pins, amalgapins, secondary retention features with/without bonding, and replacement of cusps. Introduction of additional, other than alloy based (amalgam) restoratives such as composite and/or composite core materials will be included. Other topics of this course include caries detection/removal and appropriate use of liners and bases in restorative treatment. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 and Fall D-2 Courses *Offered:* Spring. *Instructor of Record:* Mojdeh Dehghan (Spring).

- RESD 206 Complex Intracoronar Preparations/Restorations (Lab)** *Credit: 1 (0-24) A-F* This Lab will include projects allowing the student doctor to work on typodont (plastic) teeth with/without simulated caries and treat natural teeth, simulating real-case clinical scenarios. Exposure to different restorative materials and diverse clinical techniques will be expanded. Student doctors will learn to prepare and insert compound and complex restorations, using both amalgam and composite resin materials, involving cusp replacement, as permanent restorations or build-up restoratives for future prosthodontic care. *Mode of delivery:* Technique lab. *Pre-Requisites:* D-1 and Fall D-2 Courses *Offered:* Spring. *Instructor of Record:* Ashanti Braxton (Spring).
- RESD 207 Introduction to Clinical Practice II** *Credit: 2 (2-52) Pass/Fail* This course blocks students in the clinic during the Spring Term of the second year. It will enable each student, at a minimum, to enter the D-3 year with multiple experiences in clinic protocol, infection control protocol, patient record-keeping protocol, and face-to-face interactions with patients. It is further expected that each student will perform diagnostic procedures, pain control procedures, patient education, and selected patient treatment procedures, including experiences as primary operator in the presence of the D-4 student and under the supervision of the attending Faculty. Correspondingly, for those procedures that the D-2 is not preclinically prepared to undertake, the student will gain valuable experience assisting or observing the D-4 student. *Mode of delivery:* Lecture and clinical rotation. *Pre-Requisites:* D-1 and Fall D-2 Courses *Offered:* Spring. *Instructor of Record:* Ashanti Braxton (Spring).
- RESD 208 Esthetic Dentistry (Lecture)** *Credit: 1 (15-0) A-F* A Lecture designed for second year students to gain basic background knowledge in the biologic, mechanical and esthetics principles necessary to plan, prepare, fabricate, and deliver anterior and posterior esthetic restorations and to apply this background knowledge to the treatment of patients. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 and Fall D-2 Courses *Offered:* Spring. *Instructor of Record:* James Simon (Spring).
- RESD 209 Esthetic Dentistry (Lab)** *Credit: 1 (0-42) Pass/Fail* This is the companion course to Esthetic Dentistry (Lecture) – RESD 208. This is a Lab designed for second year students to apply the technical procedures necessary to fabricate various types of esthetic restorations, both direct and indirect using the most advanced materials and equipment. *Mode of delivery:* Technique lab. *Pre-Requisites:* D-1 and Fall D-2 Courses May be repeated 1 *Offered:* Spring. *Instructor of Record:* James Simon (Spring).
- RESD 301 Dental Auxiliary Utilization** *Credit: 1 (10-0) Pass/Fail* This is a course introducing the student to efficiency techniques in the practice of dentistry involving the utilization of dental auxiliaries. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall. *Instructor of Record:* Barry Owens (Fall).
- RESD 304 DAU Clinic** *Credit: 1 (0-20) Pass/Fail* Credit is given for application of the principles of Dental Auxiliary Utilization in the clinical setting. Students deliver a limited scope of dental services while learning to use trained chair side dental assistants effectively and efficiently. *Mode of delivery:* Patient-care. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall through Spring. *Instructor of Record:* Bernard Blen (Fall); Bernard Blen (Spring).
- RESD 306 Operative Dentistry Clinics** *Credit: 5 (0-240) A-F* Clinical experience in operative procedures taught by this department is gained under supervision of the Operative Dentistry Faculty. *Mode of delivery:* Patient-care. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall through Spring. *Instructor of Record:* Janet Harrison (Fall); Janet Harrison (Spring).
- RESD 403 Advanced Operative Dentistry** *Credit: 1 (5-0) Pass/Fail* This course is a compilation of clinically relevant techniques and procedures in Operative Dentistry. The intent of this course is to review principles and correlate theory into practice after the students have had clinical experience in operative dentistry. This course will present and review concepts, clinical procedures and problem solving using operative dentistry principles. Critical thinking and case-based learning will be emphasized. It also serves as a critical thinking exercise in preparation for Part II of the National Board Dental Examination. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1, D-2, and D-3 Courses *Offered:* Fall. *Instructor of Record:* Robert Hatch (Fall).

- RESD 404 DAU Clinic** *Credit: 1 (0-28) Pass/Fail* This experience offers application of the principles of Dental Auxiliary Utilization in the clinical setting. Students deliver a broad scope of dental services while learning to use trained chair side dental assistants effectively and efficiently. *Mode of delivery:* Patient-care. *Pre-Requisites:* D-1, D-2, and D-3 Courses *Offered:* Fall through Spring. *Instructor of Record:* Bernard Blen (*Fall*); Bernard Blen (*Spring*).
- RESD 406 Operative Dentistry Clinics** *Credit: 5 (0-240) A-F* Clinical experience in operative procedures taught by this department is gained under supervision of the Operative Dentistry Faculty. *Mode of delivery:* Patient-care. *Pre-Requisites:* D-1, D-2, and D-3 Courses *Offered:* Fall through Spring. *Instructor of Record:* Janet Harrison (*Fall*); Janet Harrison (*Spring*).

Division of Biomaterials

- RESD 113 Biomaterials** *Credit: 1 (17-2) A-F* A basic course in the study of dental materials that includes physical, chemical and mechanical properties and the interaction of basic materials with the biological system. A laboratory is included to illustrate both properties and manipulation of dental materials. *Mode of delivery:* Technique lab. *Pre-Requisites:* Acceptance into Dental Program *Offered:* Fall through Spring. *Instructor of Record:* Antheunis Versluis (*Fall*); James Ragain (*Spring*).
- RESD 401 Advanced Biomaterials** *Credit: 1 (11-0) A-F* This course is an update and review of dental materials. Emphasis is placed on new developments along with their practical applications to dentistry. *Mode of delivery:* Didactic Online. *Pre-Requisites:* D-1, D-2, and D-3 Courses *Offered:* Fall. *Instructor of Record:* Daranee Versluis (*Fall*).

Department of Oral and Maxillofacial Surgery

Department Chair and Professor: Lawrence W. Weeda, Jr., D.D.S.

- OMSU 201 Pain Control** *Credit: 4 (44-28) A-F* Surgical anatomy and anatomical relations pertinent to local anesthesia are reviewed. A local anesthetic technique appropriate to all dental procedures is taught as well as the administration of adjunctive drugs by oral, intramuscular, and intravenous routes. The management of drug related, medical-dental emergencies is given strong emphasis as related to pain control. *Mode of delivery:* Lecture and Clinical simulation. *Pre-Requisites:* D-1 and Fall D-2 Courses *Offered:* Spring. *Instructor of Record:* James Christian (*Spring*).
- OMSU 203 Principles of Oral and Maxillofacial Surgery** *Credit: 2 (22-8) A-F* The student is acquainted with the science of oral surgery in theory and practice. Armamentaria and their appropriate application to uncomplicated removal of teeth and soft tissue management are presented by lecture along with laboratory periods which offer instruction in suture technique. Diagnosis and recognition of clinical conditions as they relate to surgical procedures and management of oral infections are stressed. Instruction in instrument care and aseptic technique is given. *Mode of delivery:* Technique lab. *Pre-Requisites:* D-1 and Fall D-2 Courses *Offered:* Spring. *Instructor of Record:* Larry Weeda (*Spring*).
- OMSU 302 Oral Surgery Clinics** *Credit: 3 (0-120) A-F* The student gains experience in the clinical application of those surgical principles that will make him/her proficient in the performance of oral surgery that falls within the realm of the general practice of dentistry. This is achieved according to a specific protocol, and takes place subsequent to didactic and laboratory instruction for any given procedure. The student serves sequentially as observer, assistant, operator. (Summer Clinic Optional). *Mode of delivery:* Patient-care. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall through Spring. *Instructor of Record:* Larry Weeda (*Fall*); Larry Weeda (*Spring*).

OMSU 402 Oral Surgery Clinics *Credit: 3 (0-120) A-F* The student gains experience in the clinical application of those surgical principles that will make him/her proficient in the performance of oral surgery that falls within the realm of the general practice of dentistry. This is achieved according to a specific protocol, and takes place subsequent to didactic and laboratory instruction for any given procedure. The student serves sequentially as observer, assistant, operator. (Summer Clinic Optional). *Mode of delivery: Patient-care. Pre-Requisites: D-1, D-2, and D-3 Courses Offered: Fall through Spring. Instructor of Record: Larry Weeda (Fall); Larry Weeda (Spring).*

OMSU 403 Advanced Oral and Maxillofacial Surgery *Credit: 2 (20-0) A-F* This course embraces selected fundamental oral surgery techniques and a presentation of the total scope of oral surgery. Trauma, preprosthetic, and orthognathic surgery are presented along with surgery related to the infective process. Patient management is stressed. *Mode of delivery: Lecture. Pre-Requisites: D-1, D-2, and D-3 Courses Offered: Fall. Instructor of Record: Larry Weeda (Fall).*

Department of Orthodontics

Department Chair and Professor: Terry M. Trojan, D.D.S., M.S.

ORTH 107 Craniofacial Growth & Human Development *Credit: 2 (24-0) A-F* The course familiarizes students with major concepts and supporting evidence concerning human growth and development. Emphasis is on the development of concepts. In addition, the Lecture provides a comprehensive study of the craniofacial structures. While embryology of the structures is reviewed, the focus is on postnatal development. *Mode of delivery: Lecture. Pre-Requisites: D-1 Fall Courses Offered: Spring. Instructor of Record: Holland Maness (Spring).*

ORTH 203 Development of Occlusion *Credit: 1 (12-0) A-F* This course details the development of normal and ideal occlusions and of malocclusions. Initial discussion includes the normal development and eruption of the primary, mixed, and permanent dentitions, normal maturation of the orofacial musculature, and the physiology of occlusion. Lectures then cover the incidence, affected sites, sequelae, and etiologic factors that may be involved in the development of malocclusions. *Mode of delivery: Lecture. Pre-Requisites: D-1 Courses Offered: Fall. Instructor of Record: T. Trojan (Fall).*

ORTH 301 Orthodontic Diagnosis and Treatment *Credit: 2 (32-0) A-F* In this course, the student is provided with the necessary instruction to perform a comprehensive orthodontic examination, assemble data from diagnostic records, and plan the course of patient treatment. The student is introduced to a variety of contemporary fixed and removable appliances, their component parts and properties, and indications for their use. Instruction also is given on the procedures for placement and adjustment of the appliances, including the mechanical properties of orthodontic materials and biomechanical principles governing orthodontic tooth movement. *Mode of delivery: Lecture. Pre-Requisites: D-1 and D-2 Courses Offered: Fall. Instructor of Record: Jere Yates (Fall).*

ORTH 302 Orthodontic Appliance Fabrication (Laboratory) *Credit: 1 (0-21) A-F* This Lab prepares the dental student for the clinical phase of undergraduate orthodontics. Course emphasis is given to teaching the student the clinical skills required to perform effectively in the clinic. This includes learning various diagnostic record techniques, the manipulation of orthodontic wire, banding and bonding techniques, and fabrication of various contemporary fixed and removable appliances. *Mode of delivery: Technique lab. Pre-Requisites: D-1 and D-2 Courses Offered: Fall. Instructor of Record: Jere Yates (Fall).*

ORTH 304 Orthodontic Clinic *Credit: 1 (0-12) Pass/Fail* This course entails the application of principles of orthodontic diagnosis and treatment. The student is taught to apply diagnostic principles to the broad range of malocclusions encountered in a general practice. Communication skills necessary to provide effective patient/parent consultation and effective interaction with orthodontic specialists are emphasized. The student is also taught how to treat those malocclusions that are generally considered to be of an uncomplicated nature. Treatment may be provided in a wide variety of situations using either fixed or removable appliances on the child, adolescent, or the adult. *Mode of delivery: Clinical rotation. Pre-Requisites: D-1, D-2 and Fall D-3 Courses Offered: Spring. Instructor of Record: Quinton Robinson (Spring).*

Department of Pediatric Dentistry & Community Oral Health

Department Chair and Associate Professor: Steven P. Hackmyer, D.D.S.

Division of Pediatric Dentistry

- PDCH 201 Introduction to Pediatric Dentistry** *Credit: 2 (24-0) A-F* This is the basic course in Pediatric Dentistry that covers both preclinical and clinical subject matter. The course presents the following subjects in relation to treatment of the child patient: examination of the child patient, local anesthesia, premedication, behavior guidance, radiographic techniques, pulp therapy, restorative dentistry, eruption of the primary and permanent teeth, space maintenance and arch analysis, correction of minor irregularities in occlusion, limited tooth movement, trauma, gingivitis and periodontal disease, oral pathological conditions in children, dental problems of the handicapped child, special dental problems of the adolescent, and hospital dentistry. *Mode of delivery: Lecture. Pre-Requisites: D-1 Courses Offered: Fall through Spring. Instructor of Record: Harry Sharp (Fall); Harry Sharp (Spring).*
- PDCH 202 Pediatric Dentistry Lab** *Credit: 1 (0-27) A-F* This series of lectures and exercises is designed to develop proficiency in the performance of basic periodontic procedures, such as amalgam alloy restorations, chrome crowns, fixed and removable space maintainers and the making and trimming of diagnostic casts. *Mode of delivery: Technique lab. Pre-Requisites: D-1 and Fall D-2 Courses Offered: Spring. Instructor of Record: Harry Sharp (Spring).*
- PDCH 302 Pediatric Dentistry Clinic** *Credit: 2 (0-96)* In a clinical setting, experience is gained in the treatment of the child's dental needs in the areas of diagnosis, treatment planning, prevention, amalgam alloys, chrome crowns, fixed and removable space maintainers, and limited tooth movement. *Mode of delivery: Patient-care. Pre-Requisites: D-1 and D-2 Courses Offered: Fall through Spring. Instructor of Record: Harry Sharp (Fall); Harry Sharp (Spring).*
- PDCH 304 Patient- Centered Dentistry** *Credit: 1 (17-6) A-F* This course provides a practical approach for dental students to understand how the practice of dentistry is affected by intra- and inter-personal factors. The course provides students with the opportunity to practice interpersonal skills with standardized patients. Students work in a structured setting to apply the principles of patient centered dentistry that were introduced in the Didactic, PDCH 204: Human Behavior and Dental Practice. *Mode of delivery: Lecture and Clinical simulation. Pre-Requisites: D-1 and D-2 Courses Offered: Fall. Instructor of Record: Marcia Seeberg (Fall).*
- PDCH 402 Pediatric Dentistry Clinic** *Credit: 2 (0-96) A-F* This course is a continuation of PDCH 302: Pediatric Dentistry Clinic. *Mode of delivery: Patient-care. Pre-Requisites: D-1, D-2 and D-3 Courses Offered: Fall through Spring. Instructor of Record: H. Sharp (Fall); H. Sharp (Spring).*

Division of Community Oral Health

- PDCH 103 Human Values & Personal Ethics** *Credit: 1 (5-4) Pass/Fail* This course introduces dental students to the philosophical basis for ethical principles and reasoning which enables them to identify and resolve moral issues as dental students. Furthermore, an attempt is made to increase the moral sensitivity in students so that they are able to better cope with moral problems, thereby maximizing good behavior and minimizing bad behavior. The students are able to develop an understanding of the ethical behavior and standards of proper conduct for entry into the dental profession. Lastly, students are exposed to concepts of diversity and cultural competence in a small group discussion format. *Lecture and small group discussion. Mode of delivery: Lecture and small group discussion. Pre-Requisites: Acceptance into Dental Program Offered: Fall. Instructor of Record: Marcia Seeberg (Fall).*

- PDCH 107 Informatics and Evaluation of Dental Literature** *Credit: 1 (12-4) A-F* This course is designed to introduce the student to the concept of evidence based dentistry, provide skills for accessing appropriate evidence- based literature, and help the student to understand the research methods which form the foundation for evidence based dentistry. The student will become familiar with available tools for searching the research literature. The student will be introduced to research concepts which are important in critical reading of the scientific literature with an emphasis on experimental and epidemiological research designs and inferential statistics. Lecture and computer laboratory. *Mode of delivery:* Lecture and computer laboratory. *Pre-Requisites:* Acceptance into Dental Program *Offered:* Fall. *Instructor of Record:* Mark Scarbecz (Fall).
- PDCH 204 Human Behavior and Dental Practice** *Credit: 1 (16-0) A-F* This course demonstrates how relationships in the practice of dentistry are affected by such factors as intra- and inter-personal concerns, cultural bias, and the social skills of the dentists, patients and auxiliaries. It aims at raising awareness about a patient centered, culturally sensitive approach to providing dental care in a team. It provides the basic knowledge necessary to understand human behavior and communication, and demonstrates its application to oral health and oral health care. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 Courses *Offered:* Spring. *Instructor of Record:* Mark Scarbecz (Spring).
- PDCH 301 Introduction to Practice Management** *Credit: 1 (8-0) Pass/Fail* This course introduces small business terminology and basic management techniques to students who are beginning their clinical experience. Procedural organization, time management, and development of communication skills are stressed. Students are encouraged to apply these principles to their individual cubicle and gain some insight into the management skills necessary to achieve a successful practice. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall. *Instructor of Record:* Paul Gregory (Fall).
- PDCH 303 Professional Ethics and the Patient** *Credit: 1 (9-0) Pass/Fail* This course provides the dental students with the knowledge of basic moral principles regarding the treatment of dental patients in the Dunn clinical setting. This offers students an opportunity to discuss ethical issues through the use of case histories for discussion and instruction. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Spring. *Instructor of Record:* Liang Hong (Spring).
- PDCH 307 Dental Jurisprudence** *Credit: 1 (14-0) A-F* This course is a study of the laws pertaining to the practice of dentistry in Tennessee and elsewhere. The legal aspects of the doctor patient relationship, contracts, and practice agreements are emphasized. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Spring. *Instructor of Record:* Glenn Hart (Spring).
- PDCH 401 Practice Implementation & Management** *Credit: 2 (26-0) A-F* This course is designed to familiarize the student with the methodology of locating, establishing, and managing a dental practice in the most productive manner. Consultants from the various subject areas lecture in their areas of expertise. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1, D-2 and D-3 Courses *Offered:* Fall. *Instructor of Record:* David Redmond (Fall).
- PDCH 403 Community Dentistry** *Credit: 1 (15-0) A-F* This course provides dental students with some knowledge of dentistry's function in the delivery of total health care and in society at large. Lecturers represent several disciplines with dental health care including clinical specialties, the State Health Department, and organized dentistry. Topic areas in the course include: The Consumer and Health Care, The Dental Health Care Delivery System, Peer Review, the Public Practice of Dentistry, Continuing Education, and Career Choices in Dentistry. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1, D-2 and D-3 Courses *Offered:* Fall. *Instructor of Record:* Glenn Hart (Fall).

- PDCH 405 Applied Practice Management** *Credit: 1 (1-8) Pass/Fail* The Applied Practice Management (APM) course was developed to assure that every UT College of Dentistry graduate has been exposed to the “clinical” application of practice management principles and techniques. It is designed to follow the basic Practice Implementation and Management course and is scheduled to coincide with an awakening perception of relevancy as the senior student begins to fully recognize the importance of practice management skills. APM consists of four parts: an orientation describing course policies and Faculty expectations; two half- day rotations in private dental offices to observe practice management skills being applied in “real life”; a follow-up seminar to share observations; and a full-day continuing education type program exposing students to a nationally known practice management speaker (Bowyer Lectureship). *Mode of delivery:* Lecture and clinical rotation. *Pre-Requisites:* D-1, D-2 and D-3 Courses *Offered:* Spring. *Instructor of Record:* David Redmond (Spring).
- PDCH 407 Community Based Dental Education** *Credit: 2 (2-80) Pass/Fail* This course is more comparable to a clinical course than a Didactic. It will provide community based dental clinical learning opportunities for each student. The senior students will provide dental care to the underserved populations in the extramural rotation sites and understand the alternative methods of dental care delivery. The course will broaden the diversity of the students’ patient base and allow dental care provision in alternative, realistic health care venues. *Mode of delivery:* Lecture and clinical rotation. *Pre-Requisites:* D-1, D-2 and D-3 Courses *Offered:* Fall through Spring. *Instructor of Record:* Liang Hong (Fall); Liang Hong (Spring).

Department of Periodontology

Department Chair and Associate Professor: Paul S. Bland, D.D.S.

- PERI 103 Pathobiology** *Credit: 2 (27-0) A-F* The objective of the course is to provide the student with fundamental information applicable to the understanding of the major oral diseases, namely periodontal diseases, caries and pulpal pathology. Lectures cover the histopathology, epidemiology, etiology, microbiology, immunology and prevention of these diseases. This is an interdisciplinary course involving Faculty from the Department of Periodontology, Department of Restorative Dentistry, and Department of Diagnostic Sciences and Oral Medicine, Division of Endodontics. *Mode of delivery:* Lecture. *Pre-Requisites:* Acceptance into Dental Program *Offered:* Fall. *Instructor of Record:* Sidney Stein (Fall).
- PERI 203 Clinical Periodontology** *Credit: 3 (25-11-12) A-F* This introductory course introduces students to the diagnosis and non-surgical treatment of gingivitis and periodontitis as well as the relative importance of local and systemic factors in the etiology of the periodontal lesion. Information is given regarding the histopathology, epidemiology, classification, diagnosis and management of periodontal diseases. Lectures and laboratory exercises are used to teach the concepts of periodontal instrumentation. A clinic clerkship follows that is designed to introduce students to the clinical procedures required in the management of the periodontal patient. Each student will perform a complete periodontal examination on a classmate, followed by scaling and polishing and disease control evaluation. Students will gain experience infection control, patient health assessment, clinical periodontal examination, data recording, treatment planning, initial periodontal treatment, and the evaluation of the results of this treatment. Thus, this course serves to prepare students to meet the basic periodontal needs of their patients. *Mode of delivery:* Clinical simulation. *Pre-Requisites:* D-1 Courses *Offered:* Fall. *Instructor of Record:* Paul Bland (Fall).
- PERI 301 Basic Periodontal Surgery** *Credit: 2 (24-0) A-F* This course is designed to provide the students with the necessary understanding of the principles and techniques of basic periodontal surgery procedures that he/she will perform in the clinic and to introduce the more complicated procedures that the student will observe being performed. Through lectures, and the use of various audiovisual aids, the potentials of periodontal surgery in the rehabilitation of the periodontally diseased mouth are explored. Emphasis is placed on recognizing indications for, and limitations to, periodontal surgery, as well as the ability to accurately evaluate the results of treated cases. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall. *Instructor of Record:* Jacob Shiloah (Fall).

- PERI 302 Periodontics Clinic** *Credit: 3 (0-115) A-F* Practical application of previously presented didactic material is accomplished by students providing their assigned patients with appropriate treatment. A detailed periodontal examination of each patient is accomplished with the development of an appropriate treatment plan. The student gains experience in treating a variety of periodontal disease conditions by completing required treatment of several cases under the supervision of Faculty. *Mode of delivery:* Patient-care. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall through Spring. *Instructor of Record:* James Kimmelman (Fall); James Kimmelman (Spring).
- PERI 303 Special Problems in Periodontal Therapy** *Credit: 2 (23-0) A-F* The objective of This course is to familiarize the dental student with special periodontal problems exclusive of gingivitis and periodontitis. Emphasis is placed on etiology, clinical manifestations, prognosis, treatment and preventive procedures. The topics that are covered include: Diagnosis of Juvenile Periodontitis (Periodontosis), Hyperplastic and Desquamative Changes in the Periodontium, Periodontal and Gingival Disease in Childhood, Diagnosis of Acute Periodontal Conditions; ANUG and Pericoronitis, the Periodontal Abscess, Perio-Ortho Interrelationship, Role of Dental Hygienist in the Dental Office, Root Sensitivity and Desensitizing Agents, Periodontal Splinting and the Perio-Endo Lesion. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Spring. *Instructor of Record:* Rania Livada (Spring).
- PERI 402 Periodontics Clinic** *Credit: 3 (0-115) A-F* Students continue to improve their clinical skills in evaluation, diagnosis, treatment planning, and by providing treatment to the assigned patients under Faculty supervision. Emphasis is placed on treatment of the more complex cases with as wide a variety of clinical needs as is practical. *Mode of delivery:* Patient care. *Pre-Requisites:* D-1, D-2 and D-3 Courses *Offered:* Fall through Spring. *Instructor of Record:* James Kimmelman (Fall); James Kimmelman (Spring).

Department of Prosthodontics Dentistry

Department Chair and Professor: Russell A. Wicks, D.D.S.

General Dentistry - Clinical and Didactic Courses

- PROS 230 Basic Life Support (CPR)** *Credit: 1 (2-4) Pass/Fail* This cardiopulmonary resuscitation course is designed to certify the student in basic life support by the American Heart Association standards. Certification in Basic Life Support is required for the student to continue clinical treatment of patients. *Mode of delivery:* Lecture and Clinical simulation. *Pre-Requisites:* D-1, Fall D-2 Courses *Offered:* Spring. *Instructor of Record:* Morris Robbins (Spring).
- PROS 330 Professionalism and Practice Management (Clinical Practice)** *Credit: 1 (0-57) Pass/Fail* These courses involve applied principles of professionalism and practice management required in the care of clinical patients. Students will be evaluated each term by clinical Faculty and Group Practice Coordinators according to established criteria. *Mode of delivery:* Patient care. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall. *Instructor of Record:* John Seeberg (Fall).
- PROS 334 CPR Recertification** *Credit: 1 (4) Pass/Fail* This cardiopulmonary resuscitation course is designed to continue certification of the student in basic life support as required by the American Heart Association standards. Certification in Basic Life Support is required for the student to continue treatment of patients. *Mode of delivery:* Clinical simulation. *Pre-Requisites:* D-1, D-2, D-3 Courses *Offered:* Spring. *Instructor of Record:* Morris Robbins (Fall).
- PROS 336 Professionalism and Practice Management II (Clinical Practice)** *Credit: 1 (0-57) Pass/Fail* These courses involve applied principles of professionalism and practice management required in the care of clinical patients. Students will be evaluated each term by clinical Faculty and Group Practice Coordinators according to established criteria. *Mode of delivery:* Patient care. *Pre-Requisites:* D-1, D-2, and Fall D-3 Courses *Offered:* Fall. *Instructor of Record:* John Seeberg (Spring).

- PROS 430 Professionalism and Practice Management (Clinical Practice)** *Credit: 1 (0-57) Pass/Fail* These courses involve applied principles of professionalism and practice management required in the care of clinical patients. Students will be evaluated each term by clinical Faculty and Group Practice Coordinators according to established criteria. *Mode of delivery: Patient care. Pre-Requisites: D-1, D-2, D-3 Courses Offered: Fall, Spring. Instructor of Record: John Seeberg (Fall).*
- PROS 432 Professionalism and Practice Management II (Clinical Practice)** *Credit: 1 (0-57) Pass/Fail* These courses involve applied principles of professionalism and practice management required in the care of clinical patients. Students will be evaluated each term by clinical Faculty and Group Practice Coordinators according to established criteria. *Mode of delivery: Patient care. Pre-Requisites: D-1, D-2, D-3, and Fall D-4 Courses Offered: Spring. Instructor of Record: John Seeberg (Fall); John Seeberg (Spring).*
- PROS 434 CPR Recertification II** *Credit: 1 (4) Pass/Fail* This cardiopulmonary resuscitation course is designed to continue certification of the student in basic life support as required by the American Heart Association standards. Certification in Basic Life Support is required for the senior student to continue treatment of patients. *Mode of delivery: Clinical simulation. Pre-Requisites: D-1, D-2, D-3 Courses Offered: Fall. Instructor of Record: Morris Robbins (Fall).*

Division of Prosthodontics

- PROS 119 Occlusion (Lecture)** *Credit: 2 (23-0) A-F* The fundamental of occlusion course are presented in two closely related segments, The lecture module is designed to familiarize the student with the muscles of mastication, associated musculature, osseous structures and the relationship of these structures to the occlusion. Recognition of basic rotational axes and their influence on occlusion is stressed. Articulator recognition and use is also included. Articulated generation of occlusion is demonstrated by prosthetic teeth arrangement. *Mode of delivery: Lecture. Pre-Requisites: D-1 Fall Courses Offered: Spring. Instructor of Record: Russell Wicks (Spring).*
- PROS 120 Occlusion (Lab)** *Credit: 2 (0-66) A-F* The fundamental of occlusion course are presented in two closely related segments, The laboratory is designed to familiarize the student with the muscles of mastication, associated musculature, osseous structures and the relationship of these structures to the occlusion. Recognition of basic rotational axes and their influence on occlusion is stressed. Articulator recognition and use is also included. Articulated generation of occlusion is demonstrated by prosthetic teeth arrangement. *Mode of delivery: Technique lab. Pre-Requisites: D-1 Fall Courses Offered: Spring. Instructor of Record: Sanjay Karunakaran (Spring).*
- PROS 221 Prosthodontics-Complete Denture (Lecture)** *Credit: 1 (13-0) A-F* An introductory course in prosthodontics which emphasizes the theory and technical procedures involved in the fabrication of complete dentures. Topics discussed in detail are: terminology, examination and treatment planning the edentulous patient, anatomic structures associated with complete dentures, impression making, interocclusal records, selection and arrangement of prosthetic teeth, processing and finishing of denture base resin, delivery of complete dentures, post-operative care, and related matters. *Mode of delivery: Lecture. Pre-Requisites: D-1 Courses Offered: Fall. Instructor of Record: Russell Wicks (Fall).*
- PROS 222 Prosthodontics-Complete Denture (Lab)** *Credit: 1 (0-39) A-F* An introductory course in prosthodontics in which the clinical and laboratory procedures in the fabrication of complete dentures are described in manuals (UT publications), demonstrated (video camera and models), and then performed by the student under direct supervision of an instructor. Some of the specific projects performed are: impressions, recording centric relation, arrangement of prosthetic teeth, finishing denture base resin, and correction of the occlusion. *Mode of delivery: Technique lab. Pre-Requisites: D-1 Courses Offered: Fall. Instructor of Record: Russell Wicks (Fall).*

- PROS 223 Prosthodontics-Removable Partial Denture (Lecture)** *Credit: 1 (14-0) A-F* This is an introductory course in which the student learns the principles of removable partial prosthodontics. Diagnosis, treatment planning and technical procedures are covered along with the responsibilities of the dentist and laboratory technician. *Mode of delivery: Lecture. Pre-Requisites: D-1 Courses Offered: Fall through Spring. Instructor of Record: Vinay Jain (Fall); Vinay Jain (Spring).*
- PROS 224 Prosthodontics-Removable Partial Denture (Lab)** *Credit: 1 (0-33) A-F* A basic course in the design, fabrication and fitting of removable partial dentures. *Mode of delivery: Technique lab. Pre-Requisites: D-1 Courses Offered: Fall through Spring. Instructor of Record: Vinay Jain (Fall); Vinay Jain (Spring).*
- PROS 225 Fixed Prosthodontics I (Lecture)** *Credit: 2 (23-0) A-F* An introductory Didactic in fixed prosthodontics to expose second year dental student to the basics of fixed prosthodontics. To begin development of diagnostic and treatment skills related to the re-establishment of form, function and esthetics in order to restore oral health. Topics discussed in detail are: terminology, examination, treatment planning and treatment of patients needing fixed prosthetic restorations. *Mode of delivery: Lecture. Pre-Requisites: D-1 Courses Offered: Fall. Instructor of Record: Michael McBride (Fall).*
- PROS 226 Fixed Prosthodontics I (Lab)** *Credit: 2 (0-69) A-F* An introductory Lab in fixed prosthodontics to expose second year dental student to the basics of fixed prosthodontics. To begin development of laboratory and clinical skills related to the re-establishment of form, function and esthetics in order to restore oral health. *Mode of delivery: Technique lab. Pre-Requisites: D-1 Courses Offered: Fall. Instructor of Record: Michael McBride (Fall).*
- PROS 227 Fixed Prosthodontics II (Lecture)** *Credit: 1 (20-0) A-F* This is a continuation of the Fixed Prosthodontics I Lecture. Principles presented in the this course will be used to further the knowledge base of basic fixed prosthodontic principles as they relate to single and multiple restorations. These principles will also be applied to removable prosthodontics per the fabrication of survey crowns. Further information pertaining to biomaterials and treatment planning will be presented. *Mode of delivery: Lecture. Pre-Requisites: D-1 Courses Offered: Fall through Spring. Instructor of Record: Michael McBride (Fall); Michael McBride (Spring).*
- PROS 228 Fixed Prosthodontics II (Lab)** *Credit: 1 (0-60) A-F* This is a continuation of the Fixed Prosthodontics I Lab. Principles presented in this lab course will be used to further the knowledge base of clinical techniques for basic fixed prosthodontic principles as they relate to single and multiple restorations. These principles will also be applied to removable prosthodontics per the fabrication of survey crowns. To continue to apply the didactic principles learned in the Lecture to basic fixed prosthodontic restorations. *Mode of delivery: Technique lab. Pre-Requisites: D-1 Courses Offered: Fall through Spring. Instructor of Record: Michael McBride (Fall); Michael McBride (Spring).*
- PROS 231 Oral Implantology** *Credit: 1 (11-4) A-F* Provides an introduction to dental implantology for the predoctoral student. Oral implantology provides a viable modality for effective treatment planning and delivery of quality oral health care. Knowledge of variations in types and purposes of oral implants is essential in the current practice of dentistry. Placement and restoration of oral implants must conform to acceptable anatomic and physiologic parameters as well as esthetic values of the oral functional systems. The purpose of the course is to supply the dental student with information that will enable him/her to diagnose and plan treatment for dental patients with appropriate dental implants as a foundation to establishment of occlusal harmony; to introduce the student to the biologic interrelationships essential to successful placement of dental implants within a functional system; to clarify for the student the technical complexities in the patient treatment involving implants. *Mode of delivery: Lecture and Lab. Pre-Requisites: D-1, Fall D-2 Courses Offered: Spring. Instructor of Record: Robert. Brandt (Spring).*

- PROS 308 Fixed Prosthodontics Clinic** *Credit: 3 (0-150) A-F* The Junior Year in Fixed Prosthodontics offers the opportunity to apply the theories and techniques of Prosthodontics including diagnosis, treatment planning, and treatments learned in the preclinical courses. This knowledge is applied in the treatment of patients in the Fixed Prosthodontic Clinic. *Mode of delivery:* Patient care. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall through Spring. *Instructor of Record:* Michael McBride (Fall); Michael McBride (Spring).
- PROS 309 Advanced Prosthodontics** *Credit: 1 (15-0) A-F* A presentation of advanced theories, principles, and techniques in Fixed Prosthodontics, Removable Prosthodontics, and Maxillofacial Prosthodontics. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Spring. *Instructor of Record:* Robert Brandt (Spring).
- PROS 310 Removable Prosthodontics Clinics** *Credit: 4 (0-185) A-F* Clinical experience is gained in the department by treatment of completely and partially edentulous patients. *Mode of delivery:* Patient care. *Pre-Requisites:* D-1 and D-2 Courses *Offered:* Fall through Spring. *Instructor of Record:* Russell Wicks (Fall); Russell Wicks (Spring).
- PROS 313 Management of TMD** *Credit: 1 (15-0) A-F* This course provides an introduction and review of the complexities of TMD and Orofacial pain. The course will offer an approach in the examination, treatment and management of this multifaceted disorder. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1, D-2, and Fall D-3 Courses *Offered:* Spring. *Instructor of Record:* W. Hollis (Spring).
- PROS 406 Fixed Prosthodontics Clinic** *Credit: 5 (0-210) A-F* In the Senior Year the student is encouraged to become involved in increasingly more complex cases as knowledge and skills evolve into comprehensive patient care. The skilled student who demonstrates interest is encouraged to accomplish a complete occlusal reconstruction involving extensive prosthodontic therapy. *Mode of delivery:* Patient care. *Pre-Requisites:* D-1, D-2, D-3 Courses *Offered:* Fall through Spring. *Instructor of Record:* Michael McBride (Fall); Michael McBride (Spring).
- PROS 407 Principles of Prosthodontics Practice** *Credit: 1 (0-9) Pass/Fail* This course is a compilation of clinically-relevant techniques and procedures in Prosthetic Dentistry. The intent of this course is to review principles and correlate theory into practice after the students have had clinical experience in Prosthodontics. This course will present and review concepts, clinical procedures and problem solving using prosthodontic principles. Critical thinking and case-based learning will be emphasized. It also serves as a critical thinking exercise in preparation Part II of the National Board Dental Examination. *Mode of delivery:* Didactic Online. *Pre-Requisites:* D-1, D-2, D-3 Courses *Offered:* Fall. *Instructor of Record:* Vinay Jain (Fall).
- PROS 408 Removable Prosthodontics Clinics** *Credit: 5 (0-215) A-F* Clinical experience is gained in the department by treatment of completely and partially edentulous patients. *Mode of delivery:* Patient care. *Pre-Requisites:* D-1, D-2, D-3 Courses *Offered:* Fall through Spring. *Instructor of Record:* Russell Wicks (Fall); Russell Wicks (Spring).
- PROS 409 Advanced TMD & Sleep Disordered Breathing** *Credit: 1 (17-0) Pass/Fail* The course will cover the anatomical and neurological components of the Temporomandibular joint as well as the basic treatment modalities for TMD. It will address the various aspects of sleep disordered breathing and treatment. Other topics include how to perform a proper clinical exam; the symptoms of TMD and SDB and how they are related; neuroanatomy; muscle anatomy of these structures and their function; differential diagnosis between TMD pain from pulpal, periodontal ligament, and other causes of pain; electro diagnostics; causes of bruxism; recapturing a displaced disc; pharmacology for orofacial/craniofacial pain; various types of headaches and the treatment of such; diagnosis, indications, and protocols for various orthotics; phototherapy; other physical medicine modalities; other craniomandibular disorders (typical and atypical neuralgias); arthrocentesis; nutrition as related to chronic TMD patient; stabilization of the TMJ followed by rehabilitation; and many case reviews. *Mode of delivery:* Lecture. *Pre-Requisites:* D-1, D-2, D-3 and Fall D-4 Courses *Offered:* Fall. *Instructor of Record:* Michael McBride (Spring).

Elective Program

The Elective Program offers students the opportunity to explore subject areas relative to the practice of dentistry in conjunction with the core curriculum. The program is strictly voluntary, scheduled for term enrollment primarily in the junior and senior years. Although the students do not receive credit hours, the course director verifies participation in the specific elective course for official posting on the student's transcript. The listing of elective courses may vary yearly as the result of the students' participation, introduction of new topics of interest, and the need for review of the dental sciences. The majority of electives available provide a combination of independent study and hands-on facilitated clinical experience.

- ELEC 504 Student Research Fellowship Award** *Credit: 0 Pass/Fail* This course is designed to expose research-oriented students to the experience of writing a competitive research proposal, including the formulation of research hypotheses, specific objective, and experimental rationale and design. Students will gain hands-on research experience by participating in on-going research activities in the basic sciences or clinical dentistry. The research projects will be targeted to provide increased understanding of the basic mechanisms of oral diseases in order to prepare the student to provide optimum oral health care and management. *Mode of delivery:* Research based. *Pre-Requisites:* Acceptance by Dr. Dabbous *Offered:* As Needed. *Instructor of Record:* Mustafa Dabbous (Fall).
- ELEC 505 Pediatric Dentistry Research Elective** *Credit: 0 Pass/Fail* This course will involve two projects. The first will look at the different ways an etch enamel surface can be damaged prior to placing a sealant or composite resin. Extracted human teeth will be used for this experiment. The etched enamel surface will be deliberately damaged than viewed under scanning electron microscopy. The other project will be an attempt to determine the fate of the artery, vein and nerve innervating a primary tooth once root resorption has begun. Monkey jaws will be utilized. Sections will be made beginning as the vessels and nerves exits from the interior trunk and followed until these structures enter the apical foramen. There will be an attempt to determine when there is no longer innervation and vascularity to these primary teeth. Additionally, an attempt will be made to determine if these anatomical structures are lying loose within the bone or if they are in a sheath once the root of the primary root has begun to resorb. *Mode of delivery:* Research based lab. *Pre-Requisites:* Acceptance by Dr. Sharp *Offered:* Spring. *Instructor of Record:* Harry Sharp (Fall); Harry Sharp (Spring).
- ELEC 507 Table Clinics** *Credit: 0 Pass/Fail* This elective is provided to help motivate the student to pursue any aspect of the dental field to a fuller extent. New techniques, new ideas and new concepts can be fully explored and presented by the innovative and dedicated students through the medium of the Table Clinic presentation. The Table Clinic presentations at The University of Tennessee Health Science Center College of Dentistry during the Annual Dental Alumni Meeting will follow the guidelines of the ADA. The "Table Clinic Presentations" will be suitable for presentation at state and national meetings. The overall 1st prizewinner will represent The University of Tennessee Health Science Center College of Dentistry with a table clinic at the Annual ADA Convention. An orientation session will be scheduled to clarify the organization, concepts and presentation of table clinics with each dental class. *Mode of delivery:* Independent study and presentation. *Pre-Requisites:* Approval: Dr. Tipton *Offered:* Spring and Fall. *Instructor of Record:* David Tipton (Fall); David Tipton (Spring).
- ELEC 508 Oral Surgery Externship** *Credit: 0 Pass/Fail* This course is designed to provide advanced clinical experience in oral surgery to a selected group of seniors. The students will be assigned to the Department of Oral and Maxillofacial Surgery on a full-time basis during the summer session of their senior year. During this period they will receive individual experience with advanced procedures such as preprosthetic surgery and surgical removal of impacted teeth. Experience in dentofacial trauma and hospital procedures will be derived from an on-call rotation with the oral surgery resident. Course not currently offered. *Mode of delivery:* Clinical experience. *Pre-Requisites:* D-4 only: Approval of Dr. Weeda *Offered:* As Needed. *Instructor of Record:* Larry Weeda (Fall); James Christian (Spring).

- ELEC 510 Forensic Dentistry** *Credit: 0 Pass/Fail* The course will be an introduction to forensic odontology to include dental identification, bite mark investigation, mass disaster identification, and expert witness activities. It consists of lecture/seminars and hands-on laboratory instruction. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Approval: Dr. Harry Mincer: Must be D-3 or higher *Offered:* As Needed. *Instructor of Record:* Stuart Caplan (*Spring*).
- ELEC 511 Oral and Maxillofacial Surgery** *Credit: 0 Pass/Fail* This elective allows selected D-4 students to pursue further studies in oral and maxillofacial surgery departmental activities. The students will devote a portion of their clinic time to this specialized elective. It is expected that the students will gain additional experience in performing more advanced oral surgery procedures as well as in starting IVs. Each student will be encouraged to submit an article for publication prior to graduation. *Mode of delivery:* Clinical. *Pre-Requisites:* D-4 only; Approval of Dr. Christian *Offered:* Spring. *Instructor of Record:* Dr. Jim Christian (*Fall*); Dr. Jim Christian (*Spring*).
- ELEC 513 Advanced Pediatric Dentistry** *Credit: 0 Pass/Fail* Two (2) fourth year dental students are offered an elective course consisting of four clinical days for two (2) weeks. Students will be scheduled a variety of patients which will include case work-ups and treatment planning. A number of the patients will be medically or physically compromised in some manner. During the assignment students will be scheduled for hospital dentistry conferences and rounds, and may attend dental operating room cases as an assistant. *Mode of delivery:* Clinical. *Pre-Requisites:* D-4 only; Approval of Dr. Sharp *Offered:* As Needed. *Instructor of Record:* Harry Sharp (*Fall*); Harry Sharp (*Spring*).
- ELEC 514 Research Methods in Periodontal Pathobiology** *Credit: 0 Pass/Fail* This course is designed to allow dental students (open to students at any stage of training, D-2 through D-4) to gain experience in the design, performance and documentation of a laboratory research project. Individuals are expected to devise their own research projects within a framework outlined by the Course Director. Projects will vary with students' previous experience and interests. *Mode of delivery:* Research based. *Pre-Requisites:* D-2 through D-4 only; Approval of Dr. Sidney Stein *Offered:* Fall. *Instructor of Record:* Sidney Stein (*Fall*).
- ELEC 515 Elective Periodontal Surgery** *Credit: variable Pass/Fail* This course is designed to expand the knowledge of selected students in the field of Periodontology by assigning reading material, discussion in seminar sessions and clinical activities. Each participant will be required to perform at least two different periodontal surgeries and the necessary postoperative procedures. All clinical procedures performed in this course will be credited towards the requirements in perio for the Junior year. Attendance in the course is mandatory except when other blocks are assigned. Students must inform the course director if they have any conflict. *Mode of delivery:* Seminar and clinical. *Pre-Requisites:* D-3 only; Approval of Dr. Shiloah (15 students-max) *Offered:* Spring. *Instructor of Record:* Jacob Shiloah (*Spring*).
- ELEC 518 UT Endodontic Research Group** *Credit: variable Pass/Fail* The major purpose of this course is to officially recognize and organize a process that is already occurring. The purpose of the group shall be to promote Faculty/student research within the division of Endodontics and to assure that proposed and current research projects are progressing toward completion in a timely manner. This includes the assurance that all projects have adequate resources. Credit for this elective will be issued upon completion of the student project. *Mode of delivery:* Research based. *Pre-Requisites:* END0201, 202, 203, 204, Acceptance by Dr. Lloyd *Offered:* (not currently offered).
- ELEC 519 Comprehensive Implant Dentistry** *Credit: 0 Pass/Fail* The course will consist of didactic and laboratory sessions in which participating students will learn the history, implant biomaterials, treatment planning, surgical placement, ridge augmentation and implant restoration of fixed and removal prosthetic appliances. Students will have the opportunity to surgically place implants in patients who are approved by the course instructor. If surgical procedures are performed within time allowances, students will uncover and restore implants that they have placed. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* D-3 and D-4 only; Approval of Dr. Brandt *Offered:* Fall, Spring. *Instructor of Record:* Robert Brandt (*Fall*); Robert Brandt (*Spring*).

- ELEC 523 Clinical Oral Pathology** *Credit: 0 Pass/Fail* This elective course is designed to provide exposure to the clinical practice of oral pathology. The student(s) will experience and participate in examination of diagnosis and treatment of the diseases, conditions, and neoplasms that are typically seen in clinical practice. *Mode of delivery: Clinical practice. Pre-Requisites: Approval of Dr. Anderson, DSOM 302, 305, 311 Offered: As Needed. Instructor of Record: Kenneth Anderson (Fall); Kenneth Anderson (Spring).*
- ELEC 524 Project Smile** *Credit: 0 Pass/Fail* This course will assist young dentists and dental students to achieve practical real world skills in dentistry in the areas of general, cosmetic and practice management while helping people in need. The objectives include: 1) serve the underserved and the poor; 2) learn real life dentistry; 3) develop relationships with practicing dentists; 4) learn some practice management principles; 5) learn some cosmetic dental procedures; 6) see how cases are diagnosed and worked up in private practice; and 7) complete general dental procedures. *Mode of delivery: Community based. Pre-Requisites: Approval of Dr. Kemp: D-3 and D-4 only Offered: Spring. Instructor of Record: Phillip Kemp (Spring).*
- ELEC 526 Advanced Prosthodontics Elective** *Credit: 0 Pass/Fail* Clinical and laboratory experience in complicated removable, fixed and implant combination cases. Treatment planning required of the student. Cases directed by a single case facilitator. *Mode of delivery: Clinical and laboratory experience. Pre-Requisites: The academic-year course is offered to junior (D-3) and senior (D-4) students that meet established prerequisites as determined by Dr. Brandt Offered: Fall and Spring. Instructor of Record: Robert Brandt (Fall); Robert Brandt (Spring).*
- ELEC 528 Research in Oral Biology** *Credit: 0 Pass/Fail* This elective is an introduction to research methodology to acquaint the students with evidence-based approaches to solving problems in oral and craniofacial health care. Research training areas include: Techniques in cell and organ culture; Characterization of connective tissue components of the gingival, periodontal ligament, and temporomandibular joint in health and disease; Adhesive glycoproteins in periodontal reattachment; Crevicular fluid components from normal and inflamed gingival; Saliva glycoproteins and their role in bacterial adhesion; cellular activities in invasive bone tumors; Cell migration and chemotaxis; Periodontal pathogens and the oral micro-organisms; inflammation and inflammatory mediator; Proteomics and tumor biomarkers; Interaction of oral tissues and micro-organisms with implant materials; Craniofacial development; Biomechanical properties of dental and implant materials. *Mode of delivery: Didactic. Pre-Requisites: Approval of Dr. Dabbous Offered: Fall. Instructor of Record: Mustafa Dabbous (Fall).*
- ELEC 530 Physical Examination of the Hospital Patient** *Credit: 0 Pass/Fail* This course provides an overview of the basics of physical examination and history taking for the hospitalized patient. Learning objectives for students completing this course are 1) to have an understanding of history taking for the patient who will be or is a hospital admission; 2) complete a physical examination on a hospital patient; and 3) record the H & P in a systematic manner, consistent with hospital protocol. *Mode of delivery: Seminar and clinical. Pre-Requisites: D-4 only: Approval of Dr. Christian Offered: Spring. Instructor of Record: James Christian (Spring).*
- ELEC 552 Biochemical Research Techniques** *Credit: variable Pass/Fail* Designed primarily for students who are interested in research, this elective will provide a working knowledge of a variety of research techniques which best suit individual projects. The techniques are treated as independent units so that variable credit is given for each technique studied. The techniques offered will vary from year to year, and a list will be available prior to registration from the course coordinator. Techniques available will include radioimmunoassay, sub cellular fractionation, liquid chromatography, gas chromatography, and disc electrophoresis. *Mode of delivery: Didactic. Pre-Requisites: Approval of Dr. Dabbous Offered: As Needed. Instructor of Record: Mustafa Dabbous (Fall).*
- ELEC 553 Microbiology Research** *Credit: variable Pass/Fail* Qualified students may undertake research in microbiology for which credit and hours will be arranged. *Mode of delivery: Research based. Pre-Requisites: Approval of Dr. James Ryan and MSCI 201 Offered: Spring or Fall. Instructor of Record: James Ryan (Fall); James Ryan (Spring).*

FOREIGN TRAINED FACULTY DDS PROGRAM

The Foreign Trained Faculty DDS program at the University of Tennessee, College of Dentistry is a competency-based program, targeted at full-time (100%) faculty members who have earned a dental degree in a non-ADA accredited dental program. Eligible faculty will typically have completed specialty training in a program accredited by the ADA's Commission on Dental Accreditation. Also, the applicant must have passed Parts I and II of the Joint Commission's National Dental Board Examination and must have completed a minimum of two years as a UT faculty member before applying to this program. The completion of all requirements may be obtained at any time during the program but the degree will not be granted until the faculty member has been employed for a period of **five** years from the start of their individualized Foreign Trained Faculty DDS Program.

The current traditional DDS program consists of 201 credit hours. In this special faculty program, up to 134 hours may be transferred towards the completion of this degree by virtue of previous training, transcript analysis, passing of the National Boards, Part I and II, and competency assessment. Per the UTHSC requirements, for conferral of a professional degree, one third or a minimum of 67 credit hours must be earned at the UTHSC College of Dentistry (some approved elective courses may be available from other colleges on campus to complete this minimum). Credit hours are granted according to the table and course descriptions below and demonstrated by competencies expected of students who attend the traditional DDS program.

Curriculum Summary

Fall through Spring Terms

| Course | Credit Hours (variable)** |
|--|------------------------------|
| FEND 602 Independent Study in Endodontics | 0 or 8 |
| FBID 602 Independent Study in Oral Diagnosis, Oral and Maxillofacial Radiology and Oral Medicine* | 0 or 11 |
| FBID 604 Independent Study in Oral & Maxillofacial Pathology* | 0 or 6 |
| FOMS 602 Independent Study in Oral and Maxillofacial Surgery* | 0 or 11 |
| FORT 602 Independent Study in Orthodontics* | 0 or 4 |
| FPDC 602 Independent Study in Clinical Pediatric Dentistry* | 0 or 5 |
| FPER 602 Independent Study in Periodontology* | 0 or 13 |
| FOPE 602 Independent Study in Operative Dentistry* | 0 or 17 |
| FPRO 604 Independent Study in Fixed Prosthodontic Dentistry* | 0 or 14 |
| FPRO 602 Independent Study in Removable Prosthodontics Dentistry* | 0 or 14 |

**Course extends across Fall and Spring term*

***Credit hours variable (0 or maximum listed above) depending upon prior specialty training. Faculty Candidate must take **at least** 67 credit hours at UTHSC College of Dentistry.*

COURSE DESCRIPTIONS

- FBID 602 Independent Study in Oral Diagnosis, Oral and Maxillofacial Radiology and Oral Medicine** *Credit: 0 or 11 Pass/Fail* The course is designed to determine the competency level of the Faculty member in Oral Diagnosis. The candidate will demonstrate competence in oral diagnosis, treatment planning, exposure and interpretation of radiographs, and diagnosis and management of dental emergencies. Experience is obtained by treatment of patients in the Oral Diagnosis Clinic. Consideration is given to the participants' background knowledge obtained through previous education and as demonstrated on standardized examinations. At the end of the course a passing grade will be given if competency has been demonstrated at the level of a graduating student doctor of the College of Dentistry. *Mode of delivery:* Independent study. *Pre-Requisites:* Program Acceptance and other Published prerequisites *Offered:* Fall through Spring. *Instructor of Record:* Marjorie Woods (Fall); Marjorie Woods (Spring).
- FBID 604 Independent Study in Oral and Maxillofacial Pathology** *Credit: 0 or 6 Pass/Fail* The course is designed to determine the competency level of the student in Oral and Maxillofacial Pathology. The candidate will demonstrate competence in the appropriate terminology and working concepts of the epidemiology, etiology, pathogenesis, clinical signs and symptoms, histology, radiographic appearance (if applicable), treatment, and prognosis of oral and maxillofacial lesions. Consideration is given to the participants' background knowledge obtained through previous education and as demonstrated on standardized examinations. At the end of the course a passing grade will be given if competency has been demonstrated at the level of a new graduating student doctor. Any applicant in this program who holds a degree or certificate from an ADA-accredited graduate Oral and Maxillofacial Pathology program will be exempted from this course. *Mode of delivery:* Patient care. *Pre-Requisites:* Program Acceptance and other Published prerequisites *Offered:* Fall through Spring. *Instructor of Record:* Kenneth Anderson (Fall); Kenneth Anderson (Spring).
- FEND 602 Independent Study in Endodontics** *Credit: 0 or 8 Pass/Fail* The course is designed to determine the competency level of the student in Endodontics. Consideration is given to the participants' background knowledge obtained through previous education and demonstrated on standardized examinations. At the end of the course a passing grade will be given if clinical competency has been demonstrated at the level of a new graduating student doctor. Any applicant in this program who holds a degree or certificate from an ADA-accredited graduate endodontics program will be exempted from this course. *Mode of delivery:* Patient care. *Pre-Requisites:* Program Acceptance and other Published prerequisites *Offered:* Fall through Spring. *Instructor of Record:* Adam Lloyd (Fall); Adam Lloyd (Spring).
- FOMS 602 Independent Study in Oral and Maxillofacial Surgery** *Credit: 0 or 11 Pass/Fail* The course is designed to determine the competency level of the student in oral and maxillofacial surgery. Consideration is given to the participants' background knowledge obtained through previous education and demonstrated on standardized examinations. At the end of the course a passing grade will be given if clinical competency has been demonstrated at the level of a new graduating student doctor. Any applicant in this program who holds a degree or certificate from an ADA-accredited graduate oral and maxillofacial surgery program will be exempted from this course. *Mode of delivery:* Patient care. *Pre-Requisites:* Program Acceptance and other Published prerequisites *Offered:* Fall through Spring. *Instructor of Record:* Larry Weeda (Fall); Larry Weeda (Spring).
- FOPE 602 Independent Study in Operative Dentistry** *Credit: 0 or 17 Pass/Fail* This is a course in which the student reviews the principles of operative dentistry. Diagnosis, treatment planning and technical procedures are covered. *Mode of delivery:* Patient care. *Pre-Requisites:* Program Acceptance and other Published prerequisites *Offered:* Fall through Spring. *Instructor of Record:* Janet Harrison (Fall); Janet Harrison (Spring).
- FORT 602 Independent Study in Orthodontics** *Credit: 0 or 4 Pass/Fail* The course is designed to determine the competency level of the student in Orthodontics. Consideration is given to the participant's background knowledge obtained through previous education and demonstrated on standardized examinations. At the end of the course a passing grade will be given if clinical competency has been demonstrated at the level of a new graduating student doctor. Any

applicant in this program who holds a degree or certificate from an ADA-accredited graduate orthodontics program will be exempted from this course. *Mode of delivery:* Patient care. *Pre-Requisites:* Program Acceptance and other Published prerequisites *Offered:* Fall through Spring. *Instructor of Record:* Terry Trojan (Fall); Terry Trojan (Spring).

FPDC 602 Independent Study in Clinical Pediatric Dentistry *Credit:* 0 or 5 Pass/Fail This course provides the individual with the clinical experience necessary to manage the diagnostic, prevention and treatment needs of the pediatric patient. Emphasis is given to detailed case workup, analysis of dental problems, provision of preventive services and comprehensive dental treatment, management of behavior, and evaluation of post-treatment results. The course is designed to determine the competency level of the student in Pediatric Dentistry. Consideration is given to the participant's background knowledge obtained through previous education and demonstrated on standardized examinations. At the end of the course a passing grade will be given if clinical competency has been demonstrated at the level of a new graduating student doctor. Any applicant in this program who holds a degree or certificate from an ADA-accredited graduate pediatric dentistry program will be exempted from this course. *Mode of delivery:* Patient care. *Pre-Requisites:* Program Acceptance and other Published prerequisites *Offered:* Fall through Spring. *Instructor of Record:* Billy McCann (Fall); Billy McCann (Spring).

FPER 602 Independent Study in Periodontology *Credit:* 0 or 13 Pass/Fail This course provides the opportunity for an advanced placement student to demonstrate their clinical competency in the examination, diagnosis and treatment planning, periodontal instrumentation and disease control evaluation of chronic periodontitis patients. The course is designed to determine the competency level of the student in Periodontology. Consideration is given to the participant's background knowledge obtained through previous education and demonstrated on standardized examinations. At the end of the course a passing grade will be given if clinical competency has been demonstrated at the level of a new graduating student doctor. Any applicant in this program who holds a degree or certificate from an ADA-accredited graduate periodontics program will be exempted from this course. *Mode of delivery:* Patient care. *Pre-Requisites:* Program Acceptance and other Published prerequisites *Offered:* Fall through Spring. *Instructor of Record:* Paul Bland (Fall); Paul Bland (Spring).

FPRO 602 Independent Study in Removable Prosthodontics Dentistry *Credit:* 0 or 14 Pass/Fail This is a course in which the student reviews the principles of removable complete and partial prosthodontics. Diagnosis, treatment planning and technical procedures are covered along with the responsibilities of the dentist and laboratory technician. The course is designed to determine the competency level of the student in Prosthodontics. Consideration is given to the participant's background knowledge obtained through previous education and demonstrated on standardized examinations. At the end of the course a passing grade will be given if clinical competency has been demonstrated at the level of a new graduating student doctor. Any applicant in this program who holds a degree or certificate from an ADA-accredited graduate prosthodontic program will be exempted from this course. *Mode of delivery:* Patient care. *Pre-Requisites:* Program Acceptance and other Published prerequisites *Offered:* Fall through Spring. *Instructor of Record:* Russell Wicks (Fall); Russell Wicks (Spring).

FPRO 604 Independent Study in Fixed Prosthodontics Dentistry *Credit:* 0 or 14 Pass/Fail This is a course in which the student reviews the principles of fixed prosthodontics. Diagnosis, treatment planning and technical procedures are covered along with the responsibilities of the dentist and laboratory technician. The course is designed to determine the competency level of the student in Prosthodontics. Consideration is given to the participant's background knowledge obtained through previous education and demonstrated on standardized examinations. At the end of the course a passing grade will be given if clinical competency has been demonstrated at the level of a new graduating student doctor. Any applicant in this program who holds a degree or certificate from an ADA-accredited graduate prosthodontic program will be exempted from this course. *Mode of delivery:* Patient care. *Pre-Requisites:* Program Acceptance and other Published prerequisites *Offered:* Fall through Spring. *Instructor of Record:* Michael McBride (Fall); Michael McBride (Spring).

ADVANCED DENTAL EDUCATION PROGRAMS

The College of Dentistry offers advanced postdoctoral education in the Departments of Oral and Maxillofacial Surgery, Periodontology, Pediatric Dentistry, Prosthodontics, Endodontics and Orthodontics that satisfy the educational requirements of the respective specialty boards. The Master of Dental Science (MDS) degree is awarded through the College of Graduate Health Sciences at the completion of the requirements of the Post-graduate Orthodontic Program, Prosthodontic Program and Periodontics Program and is optional in Pediatric Dentistry and Endodontics. A certificate of proficiency is awarded through the College of Dentistry following completion of the program in Oral and Maxillofacial Surgery and for non-masters students in Pediatric Dentistry and Endodontics. Course work for non-degree and non-specialty students may be provided in special circumstances.

Advanced Education in General Dentistry Program

A one-year Advanced Education in General Dentistry (AEGD) Program is offered by the University of Tennessee Health Science Center College of Dentistry. Administered by Lutheran Medical Center, Brooklyn, New York, the program offers additional didactic and clinical training in the different aspects of dentistry. Residents treat patients at the College of Dentistry, Church Health Center and Christ Community Health Centers. Prior to starting the residency, candidates must have passed Part I and II of the National Dental Board Exam and have graduated from a U.S. or Canadian dental school. Applicants applying to the program must do so through ADEA's PASS Application Service and the MATCH program. For additional information about Lutheran Medical Center's AEGD Programs, please call Dr. Anna D'Emilio at 718-630-8901. For information specific to the Tennessee Program contact Dr. Robert Brandt at 901-448-6380.

Advanced Orthodontic Program

The advanced specialty education program in orthodontics requires thirty-four months training in classroom and clinical work. Full-time attendance and satisfactory completion of clinical and course work, including completion of a thesis, is required to graduate from the program with a Master of Dental Science Degree. Four students are selected for admission each year through the National Resident Match Program. At the beginning of the second year of the program, all students will attend the Tweed Study Course in Tucson, Arizona, as part of the departmental requirements. Some financial aid may be available for residents in need of assistance to attend the Tweed Study Course. For more information on the graduate Orthodontic program, please refer to the College of Dentistry website at <http://uthsc.edu/dentistry/Grad/Ortho/>.

Advanced Endodontic Program

The University of Tennessee Health Science Center offers an Advanced Education Program in Endodontics leading to a 24-month Certificate in Endodontics, awarded by the UTHSC College of Dentistry, and an optional 36-month Master of Dental Science degree, awarded by the UTHSC College of Graduate Health Sciences. Up to three postgraduate students are accepted into the endodontic program annually. The program provides advanced instruction and clinical training in preparation for practicing contemporary endodontics at the specialist level.

Postgraduate students enter a demanding two month preclinical training program in preparation for the rigors of advanced patient treatment. Didactic instruction consists of weekly literature review seminars for both contemporary and classic literature related to endodontics and additional pertinent topics. Additional lecture programs from College of Dentistry faculty and guest speakers are designed to ensure proficiency in all treatment modalities and understanding of the interrelationships with the biologic aspects of pulp and periradicular disease. Treatment planning seminars are conducted regularly in conjunction with student-driven topic presentations.

Direct patient contact constitutes approximately 60% of student activity. To complete the program, students must demonstrate proficiency in examination, diagnosis, non-surgical root canal treatment, retreatment, and root-end surgery. Students are instructed in the biomedical sciences, must demonstrate competency in vital pulp management and pulp revitalization, and have an understanding and exposure to ancillary clinical procedures, including dental implants.

The program complies with standards established by the Commission on Dental Accreditation of the American Dental Association and qualifies students for examination by the American Board of Endodontics. Both the Certificate and MDS programs run continuously throughout a 24 or 36 month period, respectively commencing July 1. For current information on the Advanced Specialty Education Program in Endodontics, refer to the program web pages at <http://www.uthsc.edu/dentistry/Grad/Endo/>.

Advanced Pediatric Dentistry Programs

Certificate Program in Pediatric Dentistry. The College of Dentistry, Department of Pediatric Dentistry, offers a postdoctoral program in pediatric dentistry designed to meet the needs of practitioners who wish to specialize in the practice of dentistry for children. The course extends over 24 months of postdoctoral study in advanced techniques and clinical procedures. As they are both residents and graduate students, attendees receive a stipend and tuition waiver when enrolled in the College of Graduate Health Sciences. Continuous full-time attendance is a requisite of the course that leads to a Certificate of Specialty in Pediatric Dentistry. Successful completion of the program renders the student educationally qualified for specialty examination by the American Board of Pediatric Dentistry.

On completion of an optional third year and fulfillment of the thesis requirement, students can receive the Master of Dental Science degree (MDS). Upon completion of an additional term, an optional educational degree is available leading to a Master of Dental Science degree (MDS) through the College of Graduate Health Sciences. The Master of Dental Science degree (MDS) can be obtained following fulfillment of the College of Graduate Health Sciences manuscript requirement.

Application to the program is through the ADEA Postdoctoral Application Support Service (PASS). The National Resident Match Program (MATCH) is utilized in the selection of residents. The curriculum for this program includes contemporary pediatric dentistry, cephalometrics, growth and development, genetics, child behavior management, dental materials, nutrition, pediatric dental laboratory techniques, and clinical pediatric dentistry. Additional graduate-level courses are conducted in anatomy, embryology, histology, oral biology, oral pathology, immunology, microbiology, pharmacology, human growth & development, experimental design, and biostatistics. Residents/graduate students also receive training in the treatment of patients under general anesthesia at Crittenden Regional Hospital and LeBonheur Children's Hospital. A one-month rotation in general anesthesia, a two week pediatric medicine/emergency department rotation is required. Each resident/graduate student must complete a research project and paper, with data collection and analysis, and suitable for publication, during the 24 months in the program. The primary clinical setting of the program is located in Crittenden Regional Hospital, with additional clinical sites in the UTHSC College of Dentistry, St. Jude Children's Research Hospital and LeBonheur Children's Hospital. Residents/graduate students rotate through all locations and are expected to participate in all of these assignments. Six students are selected for matriculation each July.

Master of Dental Science Degree Program in Pediatric Dentistry. For individuals successfully completing the certificate program interested in training separate advanced degree, an additional term (6 months) is available leading to the Master of Dental Science Degree in Pediatric Dentistry, offered through the College of Graduate Health Sciences. The Master of Dental Science (MDS) degree will be awarded on submission and acceptance to the College of Graduate Health Sciences, of an original research paper suitable for publication. Individuals wishing to pursue the Master of Dental Science Degree must inform the program director and department chair in July at the beginning of their training program. For more information, see <http://www.uthsc.edu/dentistry/Grad/Pedo/>.

Advanced Oral and Maxillofacial Surgery Program

The College of Dentistry offers a formal four-year Advanced Oral and Maxillofacial Surgery training program leading to a certificate (an optional six-year program leading to an MD degree is available in specific cases) that is officially affiliated with the Memphis Veterans Administration Medical Center and The Regional Medical Center at Memphis, LeBonheur Children's Hospital, and Methodist University Hospital provide the other primary sites of activity for the program. The four-year program is academically divided into eight six-month terms. The Commission on Dental Accreditation of the American Dental Association authorizes acceptance of two trainees each year. The National Resident Match Program is utilized in the selection of residents.

The faculty of the Department of Oral and Maxillofacial Surgery of the College of Dentistry is responsible for the direction and supervision of both the clinical services and didactic aspects of the program. Two generous endowment programs provide resources for additional program support. Physical facilities are exceptionally favorable for developing broad experience with balanced emphasis on the total scope of oral and maxillofacial surgery as practiced today and perceived for the near future. The facilities include a six-chair private practice module in a suite with supportive x-ray, recovery, consultation, laboratory, and instrument rooms, and a seven-chair hospital outpatient clinic in a separate facility. Cases scheduled for general operating room suites follow the same protocol as other surgical specialties. Emergency services are provided in busy emergency rooms and at a regional Level I trauma center.

The curriculum has been developed to relate basic science principles to clinical application through the mechanism of rotation with other disciplines, regularly scheduled seminars, and conferences. Special courses are conducted for anatomy and oral pathology. Regular rotation to other disciplines includes general anesthesia, surgery, internal medicine, trauma, ENT, plastic surgery, and oculoplastics. There is also devoted time for research in the second and third years. Residents are certified in Advanced Cardiac Life Support and Advanced Trauma Life Support during the program.

The trainee's clinical involvement is progressive from simple to complex surgical procedures. The first year is more heavily didactic (anatomy and physical diagnosis) with rotations on the medicine service to develop proficiency in physical diagnosis and patient evaluation and the anesthesia service. The second year has required rotations on general surgery and pediatric anesthesia. The remainder of the second year has increased requirements relating to advanced dentoalveolar and impaction surgery and complicated trauma. Clinical applications in these areas continue in the third year with added emphasis on orthognathic surgery, implantology (including virtual treatment planning and guided surgeries), and other pre-prosthetic surgery, TMJ surgery, as well as off-service subsurgical specialty rotations. Major operating room oral and maxillofacial surgery and administrative responsibilities of a chief resident make up the last year.

A stipend is granted the trainee commensurate with the level of post-doctoral training and equal to Residents of other services at the same level at the University of Tennessee Health Science Center. For more information, see <http://www.uthsc.edu/dentistry/Grad/OMS/>.

Advanced Periodontology Program

The University of Tennessee, in conjunction with the Memphis Veterans Administration Medical Center, offers a residency in Periodontics providing advanced education and training in preparation for the practice of the specialty of Periodontics. The training program complies with the standards established by the Council on Dental Accreditation of the American Dental Association and qualifies candidates for specialty examination by the American Board of Periodontology. Additionally, periodontics residents must be enrolled in the Masters of Dental Science Program offered through the College of Graduate Health Sciences.

The course of study extends over a period of 36 months. This period is consistent with the expanding scope and knowledge in periodontics and training requirements set forth by the American Academy of Periodontology and the American Dental Association. Continuous full-time attendance is a requisite for the course of instruction that leads to a Master of Dental Science degree. Students must complete a thesis that is based on original research, demonstrates individual thought, and is of substantive literary and scientific merit.

The curriculum has been developed to relate basic science principles meaningfully to the practice of periodontics. The program emphasis is on clinical application, with significant didactic content and research activity maintained over a thirty-six month period. Direct patient contact constitutes approximately 50% of the program activity. Special courses are conducted in anatomy, histology, oral pathology, pharmacology, biostatistics, experimental design and research methodology. Special seminars are conducted in immunology and microbiology coupled with current and topical reviews of the periodontal literature. Case presentation seminars are conducted on a regular basis at both University of Tennessee and the Memphis Veterans Administration Medical Center. Special rotations in general anesthesia and internal medicine are also included. Instruction in implant therapy is also an integral part of the didactic and clinical instruction.

Two students are selected for matriculation each summer (July). A variable stipend is granted each student commensurate with their level of post-D.D.S. training, and funding level availability. Applicants are reminded that the deadline for application to the Periodontics Graduate Program is August 15. For more information on the Master of Science in Dentistry, refer to <http://www.uthsc.edu/grad/Programs/index.php?page=DSCI>. For more information on the Advanced periodontology program refer to <http://uthsc.edu/dentistry/Grad/Perio/>.

Advanced Prosthodontics Program

The advanced dental education program in prosthodontics leads to a Certificate of Proficiency in prosthodontics, awarded by the College of Dentistry, and a Master of Dental Science degree, awarded by the College of Graduate Health Sciences. The program provides advanced instruction and clinical training to prepare residents for the practice of prosthodontics. To complete the program, residents must demonstrate proficiency in the examination, diagnosis and reconstruction of complex edentulous, partially edentulous, and dentate oral conditions. The program complies with standards established by the Commission on Dental Accreditation of the American Dental Association and qualifies students for examination by the American Board of Prosthodontics. Continuous, full time attendance for this 36-month program is required.

The curriculum is consistent with the expanding scope of knowledge in prosthodontics as determined by the American College of Prosthodontists and the American Dental Association. The curriculum relates basic science principles to the practice of prosthodontics. Clinical applications are emphasized while maintaining didactic and research activities throughout the course of study. Direct patient contact constitutes approximately 60% of resident activity. In depth instruction and patient treatment involving dental implant therapy is an integral component of didactic and clinical activities. Prosthodontics residents are encouraged to both surgically place and restore dental implants. Instruction in laboratory technology is an integral part of all treatment rendered.

Concurrently, graduate-level courses are conducted in anatomy, embryology, histology, oral biology, oral pathology, immunology, microbiology, pharmacology, human growth & development, experimental design, material science, and biostatistics. Review of current and classic literature related to prosthodontics is accomplished on a regular basis. Interdisciplinary seminars emphasize the importance of comprehensive dental care in the treatment of complicated oral conditions. Case presentation seminars are also conducted on a regular basis.

In accordance with mandates set forth by the American Dental Association in the Accreditation Standards for Advanced Specialty Education Programs in Prosthodontics, all residents are involved in an original, independent research project. This research displays a high level of scholarship and contributes to the existing fund of professional knowledge. Strong mentorship and state-of-the-art scientific resources are readily available in the Department of Prosthodontics's clinical research facility, the College of Dentistry's dental research center and dental materials core facilities, the University's Biomedical Engineering & Imaging program, and the University of Memphis Bioengineering program. A Master of Dental Science degree is awarded by the College of Graduate Health Sciences upon fulfillment of all program requirements, completion of research, production and acceptance of a thesis, and successful public defense of the independent research effort.

Two postdoctoral students are accepted into the Advanced Prosthodontics Program each year. All students serve as Teaching Assistants in the Department of Prosthodontics for which they receive an annual stipend. For more information on the Master of Dental Science, see <http://www.uthsc.edu/grad/Programs/index.php?page=DSCI>. For more information on the Advanced Prosthodontics program, refer to <http://www.uthsc.edu/dentistry/Grad/Pros/> or contact the Program Coordinator, Ms. Nancy Wilson, at 901-448-6930 or nwilson@uthsc.edu.

CONTINUING DENTAL EDUCATION PROGRAMS

Continuing education is offered to graduates of professional programs as an ongoing commitment to professional development. The first continuing dental education program presented by the College of Dentistry was in 1953. Since then, there has been an increasing awareness of the need for continuing education to become a part of the lifelong educational experience of all health professionals. As a result, there has been a steady increase in the quality and number of courses presented by the College of Dentistry, as well as a greater distribution of meeting sites throughout Tennessee and Arkansas. Due to popular demand, the majority of courses presented are in the clinical sciences, with more emphasis now being placed upon those requiring clinical and/or laboratory participation. As resources permit, a series of courses have been planned for live video conferencing throughout the Mid-South utilizing facilities available on The University of Tennessee Health Science Center Memphis campus.

Participants of all University of Tennessee sponsored continuing education courses earn CEU (Continuing Education Units) credit, which is awarded by institutions to those who have satisfied certain regional and national accreditation requirements. for more information, <http://www.uthsc.edu/dentistry/CE/>.

FACULTY LIST

Anderson, Kenneth Mark, Associate Professor, 2003; Doctor of Dental Surgery, University of Tennessee Health Science Center (1989)

Aubertin, Mary A., Associate Professor, 2002; Doctor of Dental Medicine, Washington University in St. Louis (1988)

Bland, Paul S., Associate Professor and Chair, 1994; Doctor of Dental Surgery, University of Tennessee Health Science Center (1992)

Blen, Bernard J., Assistant Professor, 2000; Doctor of Dental Surgery, University of Tennessee Health Science Center (1968)

Brandt, Robert L., Professor, 2005; Doctor of Dental Surgery, Ohio State University, (1964)

Braxton, Ashanti D., Assistant Professor, 2011; Doctor of Dental Surgery, Meharry Medical College School of Dentistry (2008)

Christian, James Mintzer, Associate Professor, 2010; Doctor of Dental Surgery, Temple University (1978)

Caplan, Stuart, Assistant Professor, 2010; Doctor of Dental Surgery, Marquette University (1963); Master of Science, Nova Southeastern University (2006)

Dabbous, Mustafa K., Professor, 1970; Doctor of Philosophy, University of Tennessee Health Science Center (1967)

Dehghan, Mojdeh, Assistant Professor, 2005; Doctor of Dental Surgery, Baylor College of Dentistry (1990)

Gregory, Paul N., Assistant Professor, 1993; Doctor of Dental Surgery, University of Missouri-Kansas City (1971); Master of Health Administration, University of Memphis (1998)

Harris, Edward F., Professor Emeritus, 2011; Doctor of Philosophy, Arizona State University (1977)

Harrison, Janet A., Professor, 2002; Doctor of Dental Surgery, University of Texas Health Science Center at Houston (1981)

Hart, Glenn T., Associate Professor, 1972; Doctor of Dental Surgery, University of Tennessee Health Science Center (1970)

Hasty, Karen A., Professor, 1977; Doctor of Philosophy, University of Tennessee Health Science Center (1981)

Hatch, Robert H., Assistant Professor, 2007; Doctor of Dental Surgery, University of Tennessee Health Science Center (1977)

Hollis, Wainscott, Assistant Professor, 2005; Doctor of Dental Surgery, University of Tennessee Health Science Center (1991)

Hong, Liang, Associate Professor, 2010; Doctor of Philosophy in Oral Science, University of Iowa, 2004, Master of Science in Dental Public Health, University of Iowa (2001)

Jain, Vinay, Assistant Professor, 2007; Bachelor of Dental Surgery, Maharashtra University of Health Sciences (2003); Master of Dental Surgery in Prosthodontics, University of Tennessee Health Science Center (2010)

Karunagaran, Sanjay, Assistant Professor, 2012; Doctor of Dental Surgery, University of Detroit Mercy School of Dentistry (2009); Master of Science in Dentistry, Indiana University (2008)

Kemp, Phillip A., Instructor, 2009; Doctor of Dental Surgery, University of Tennessee Health Science Center (1988)

Kimmelman, James R., Professor, 2005; Doctor of Dental Surgery, West Virginia University (1965); Master of Science in Periodontology, University of Iowa (1969)

Livada, Rania, Assistant Professor, 2011; Doctor of Dental Surgery, National and Kapodistrian University of Athens (2003); Master of Science in Dentistry, University of Alabama at Birmingham (2009)

Lloyd, Adam, Associate Professor and Chair, 2009; Bachelor of Dental Surgery, University of Wales (1994); Master of Science, Baylor College of Dentistry (2003)

Maness, Holland, Assistant Professor, 2013; Doctor of Dental Medicine, Georgia Health Sciences University (2002)

McBride, Michael A., Associate Professor, 2003; Doctor of Dental Surgery, University of Tennessee Health Science Center (1982)

McCann Sr., Billy Westmoreland, Professor, 1992; Doctor of Dental Surgery, University of Tennessee Health Science Center (1958)

Migliorati, Cesar A., Professor and Chair, 2009; Dental Surgeon, University of Sao Paulo (1972); Master of Science in Oral Biology, University of California, San Francisco (1984)

Mincer, Harry H., Professor Emeritus, 2005; Doctor of Dental Surgery, University of Tennessee Health Science Center (1955); Doctor of Philosophy, University of Tennessee Health Science Center (1974)

Nelson, Randall J., Professor, 1984; Doctor of Philosophy in Anatomy, Vanderbilt University (1980)

Nutting, David F., Associate Professor, 1971; Doctor of Philosophy in Physiology, Duke University (1969)

Owens, Barry Mark, Associate Professor, 1990; Doctor of Dental Surgery, University of Tennessee Health Science Center (1986)

Radic, Marko Z., Associate Professor, 2000; Doctor of Philosophy in Biological Sciences, University of California, Irvine (1987)

Ragain, Jr, James, Associate Professor, 2013; Doctor of Dental Surgery, University of Texas Health Science Center at Houston (1984); Doctor of Philosophy, Ohio State University (1998)

Rawal, Yeshwant B., Associate Professor, 2005; Bachelor in Dental Surgery, Annamalai University (1986); Master of Science in Dentistry, Ohio State University (2005)

Redmond, David C., Assistant Professor, 2007; Doctor of Dental Surgery, University of Tennessee Health Science Center (1981)

Robbins Jr., Morris L., Professor, 2001; Doctor of Dental Surgery, University of Tennessee Health Science Center (1958)

Robinson, Quinton, Associate Professor, 1986; Doctor of Dental Surgery, University of Tennessee Health Science Center (1984); Master of Science, University of Tennessee Health Science Center (1988)

Ryan, James Patrick, Associate Professor and Assistant Chair, 1988; Doctor of Philosophy, University of North Carolina Chapel Hill (1985)

Scarbecz, Mark, Professor, 1999; Doctor of Philosophy in Sociology, University of Arizona (1991)

Scroggs, Reese Schiller, Associate Professor, 1992; Doctor of Philosophy in Pharmacology, University of Illinois at Chicago (1989)

Seeberg, John Douglas, Assistant Professor, 2010; Doctor of Dental Medicine, University of Pennsylvania (1969)

Seeberg, Marcia Scott, Instructor, 2010; Master of Science in Counseling Psychology, Nova Southeastern University (1989)

Sharp, Harry K., Professor, 1983; Doctor of Dental Surgery, University of Tennessee Health Science Center (1971)

Shiloah, Jacob, Professor, 1977; Doctor of Dental Medicine, The Hebrew University, Hadassah School of Dental Medicine (1971)

Shintaku, Werner Harumiti, Associate Professor, 2011; Doctor of Dental Surgery, University of Sao Paulo (1998); Master of Science in Dental Diagnostic Science, University of Texas Health Science Center at San Antonio (2010)

Simon, James F., Professor, 2000; Doctor of Dental Surgery, University of Iowa (1969); Master of Education in Curriculum and Instruction, University of New Orleans (1982)

Stein, Sidney H., Associate Professor, 1998; Doctor of Dental Medicine, Washington University in St. Louis (1982); Doctor of Philosophy in Microbiology and Immunology, University of Rochester (1992)

Suttle, Dale Parker, Associate Professor, 1993; Doctor of Philosophy in Chemistry, University of Texas at Austin (1975)

Sweatman, Trevor W., Professor, 1983; Doctor of Philosophy, Southampton University Medical School (1981)

Tipton, David A., Professor, 1984; Doctor of Dental Surgery, University of Tennessee Health Science Center (1978), Doctor of Philosophy in Biology, University of Memphis (1988)

Trojan, Terry Martin, Associate Professor and Chair, 2009; Doctor of Dental Surgery, University of Michigan (1970); Master of Science in Orthodontics, University of Michigan (1974)

Versluis, Antheunis, Professor, 2010; Doctor of Philosophy, University of Greenwich (1994)

Versluis, Daranee, Associate Professor, 2010; Doctor of Dental Surgery, Chulalongkorn University (1987); Doctor of Philosophy in Oral Biology, University of Minnesota (1998); Master of Science in Dentistry, University of Alabama at Birmingham (1991)

Wasson, Waletha, Associate Professor, 1988; Doctor of Dental Surgery, University of Tennessee Health Science Center (1979); Master of Science in Restorative Dentistry, University of Michigan (2001); Master in Public Administration, University of Memphis (1988)

Waters, Robert S., Professor, 1985; Doctor of Philosophy in Biobehavioral Science, University of Connecticut (1978)

Weeda, Lawrence W., Professor and Chair, 1998; Doctor of Dental Surgery, University of Missouri-Kansas City (1974)

Wicks, Russell Anthony, Professor and Chair, 1993; Doctor of Dental Surgery, University of Tennessee Health Science Center (1978); Master of Science in Prosthodontics, University of Texas Health Science Center at San Antonio (1993)

Woods, Marjorie A., Professor, 1987; Doctor of Dental Surgery, University of Tennessee Health Science Center (1984)

Yates, Jere L., Associate Professor, 1986; Doctor of Dental Surgery, University of Tennessee Health Science Center (1972); Master of Science in Pedodontics, University of Tennessee Health Science Center (1975)



2013-2014 Catalog

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Donald B. Thomason, PhD
Dean

Isaac O. Donkor, PhD
Associate Dean, Student Affairs and Recruitment

Larry Tague
Assistant Dean, Academic Affairs

GENERAL INFORMATION

History

The College of Graduate Health Sciences (CGHS) at UTHSC was organized as the Graduate School under the leadership of Dr. T. P. Nash, Jr., in 1923. The presentation of a master's thesis by Ben King Hamed marked the formal beginning of the Graduate School in 1925 when the Graduate Committee at Knoxville accepted Hamed's thesis for the M.S. with a major in Pharmacology. Subsequently, the graduate program leading to the Doctor of Philosophy degree was approved for presentation in the School of Biological Sciences in 1928. Dr. E. Foster Williams was the first to complete the program and was awarded the Doctor of Philosophy degree in Biochemistry in 1932. This was the first doctorate of philosophy awarded at any of the campuses of The University of Tennessee. Until 1960, the Graduate School in Memphis operated as a division of the Graduate School in Knoxville with Dr. R. H. Alden as Associate Dean of the Graduate School. The Graduate School of Medical Sciences was then established as a separate entity with its own Graduate Council and bylaws. Dr. Alden was named the first dean. Graduate training was offered in Anatomy, Biochemistry, Microbiology, Pharmacology, Physiology and Biophysics, and Pathology. Later, programs in the Pharmaceutical Sciences were organized and included the academic disciplines of Medicinal Chemistry, Pharmaceutics, and Health Science Administration (now Health Outcomes and Policy Research). In 2004, the Integrated Program in Biomedical Sciences was created by combining the programs in Anatomy and Neurobiology, Molecular Sciences, Pathology, Pharmacology, and Physiology (becoming the Integrated Biomedical Sciences Program in 2011). Master's and doctorate training in Biomedical Engineering and Imaging, master's programs in Epidemiology and Dental Sciences, and an academic doctorate in Nursing completed the graduate offerings up until July of 2009 when the Ph.D. Program in Speech and Hearing Science (physically located on the UTK campus) was added. An accelerated one-year master's in Pharmacology began to be offered in 2010. The Graduate School became the College of Graduate Health Sciences in October 1987.

Mission

The mission of the College of Graduate Health Sciences is to improve the knowledge about human health through education, research, and public service, with an emphasis on improving the health of Tennesseans.

Dean's Biography

The Dean of the College is Donald B. Thomason, Ph.D. Dr. Thomason received his B.A. in 1980 from the University of Virginia as a University Major (thesis titled "Mathematical Modeling in Biochemical Systems") and a Ph.D. in Physiology and Biophysics in 1986 from the University of California, Irvine. After postdoctoral research in the Department of Physiology and Cell Biology at the University of Texas Health Science Center, Houston, Dr. Thomason joined the faculty in the Department of Physiology, College of Medicine, at The University of Tennessee Health Science Center in 1990. Dr. Thomason served as the Associate Dean for Student Affairs in the College from 2007 until being appointed Dean in June 2012.

Administrative Structure

The executive and administrative head of the College of Graduate Health Sciences is the Dean, who reports to the Chancellor of The University of Tennessee Health Science Center. The College's senior administration consists of the Associate Dean for Student Affairs and Recruitment, and the Assistant Dean for Academic Affairs. The Dean receives recommendations on college issues from the Graduate Studies Council. The Council is chaired by the Dean and consists of the Chair or Director of each program within the College, a representative from St. Jude Children's Research Hospital, and a student representative. The Council is advised by the following standing committees that are appointed by the Dean upon consultation with the other colleges: Credentials Committee and Curriculum Committee. The Graduate Studies Council is responsible for reviewing new courses and programs in the CGHS. The Council also recommends the appointment of faculty to the Dean. It shall be within the province of the Council, on its own initiative, to plan and to recommend institution of programs of graduate instruction; to set standards of admission and curricula; and to assemble, organize, and interpret information pertaining to the graduate programs at UTHSC. Recommendations arising from these activities shall be submitted to the Dean.

Organization of the Faculty

The college is campus-wide with respect to its faculty, policies, and programs. The faculty of the College of Graduate Health Sciences consists of faculty members whose primary appointments are in one of the colleges of allied health sciences, dentistry, medicine, nursing, or pharmacy and who are actively engaged in research. Members of the Graduate Faculty are responsible for the instruction of students pursuing academic M.S., M.D.S., and Ph.D. degrees. Faculty from the professional colleges who wish to teach, serve on student faculty committees, or direct student degree research in a graduate program offered through the College of Graduate Health Sciences may apply to the Credentials Committee for graduate faculty status. The Committee will make a recommendation to the Dean and Graduate Studies Council, with the final decision made by the Dean. Students select their faculty advisor and faculty committee from the credentialed faculty.

Location/Facilities

The College of Graduate Health Sciences administrative offices are located in Suite 407 of the 920 Madison Avenue Building on the UTHSC Memphis campus. Research locations for students and faculty are located on the UTHSC Memphis campus; at Le Bonheur Children's Hospital, St. Jude Children's Research Hospital, and the VA Medical Center also located in Memphis; and in Knoxville, on the University of Tennessee – Knoxville campus.

Program Modification Statement

The faculty of the College of Graduate Health Sciences reserves the right to make changes in curriculum, policy and procedures when, in its judgment, such changes are in best interest of students and the College of Graduate Health Sciences. Ordinarily, a student may expect to receive a degree by meeting the requirements of the curriculum, as specified in the catalog currently in force when they first enter the college, or in any one subsequent catalog published while they are a student. However, the College of Graduate Health Sciences is not obligated to fulfill this expectation, or to offer in any particular year, a course listed in the catalog.

DEGREES OFFERED

Doctoral Programs

The College of Graduate Health Sciences has six programs leading to the degree of Doctor of Philosophy:

- Biomedical Engineering (joint degree with the University of Memphis);
- Biomedical Sciences;
- Health Outcomes and Policy Research;
- Nursing Science;
- Pharmaceutical Sciences; and,
- Speech and Hearing Science.

The program in biomedical engineering is a joint program with the University of Memphis for which students may apply through the websites of either institution. Students admitted to the biomedical engineering program take courses and do research on both campuses. Five concentrations or areas of study are available: bioimaging, biomaterials and regenerative technology, biomechanics, biosensors and electrophysiology, and an interdisciplinary focus. For more information, refer to <http://www.uthsc.edu/bme/>. The biomedical sciences program has five concentrations or areas of study available: cancer and developmental biology; cell biology and physiology; microbiology, immunology, and biochemistry; molecular and systems pharmacology; and neuroscience. The pharmaceutical sciences program has two concentrations or areas of study available: medicinal chemistry and pharmaceuticals. Likewise, the health outcomes and policy research program has two concentrations: health policy and health services research, and pharmacoeconomics. Finally, the speech and hearing science program has four areas of study available: audiology; hearing science; speech and language pathology; and speech-language science.

The course of study leading to the Doctor of Philosophy (PhD) degree is usually completed in five to six years. The exact sequence will vary from program to program (sample sequences provided below). Generally, the first two years are spent taking various required courses and seminars and choosing a Research Advisor. Subsequently, four additional faculty are selected to participate on the student's Faculty Committee. The student is admitted to candidacy for the degree after successful completion of an oral and/or written examination. The last two or three years are spent in actual research on a specific problem, taking other elective or specialty courses, and writing and defending the dissertation.

Combined Au.D./Ph.D., D.D.S./Ph.D., M.D./Ph.D., D.N.P./Ph.D., and Pharm.D./Ph.D. curricula in conjunction with the colleges of allied health sciences, dentistry, medicine, nursing, and pharmacy are available for exceptionally qualified students. Combined professional degree/Ph.D. programs generally take less time to complete than each degree program individually because of the correspondence of course requirements between the programs.

Master's Programs

The College of Graduate Health Sciences has six programs leading to a Master of Science degree (Biomedical Engineering, Biomedical Sciences with a concentration in laboratory research and management, Epidemiology, Health Outcomes and Policy Research, Pharmaceutical Sciences and Pharmacology), with a seventh master-level degree leading to a Master of Dental Science. Individuals enrolled in doctoral program in Biomedical Sciences, Health Outcomes and Policy Research, or Pharmaceutical Sciences may be granted a Master of Science degree in Biomedical Sciences, Health Outcomes and Policy Research, or Pharmaceutical Sciences under unique circumstances.

The course of study leading to the Master of Science or the Master of Dental Science degree is usually completed in two to three years. Generally, the first year is spent taking required courses and seminars and choosing a Research Advisor. Subsequently, two additional faculty are selected to participate on the student's Faculty Committee. The student is admitted to candidacy for the degree after successful completion of an oral and/or written examination. The last one to two years are spent in actual research on a specific problem, taking other elective or specialty courses, and writing and defending the thesis or project.

Graduate Certificate in Clinical Research

In addition to the doctoral and master's level degrees listed above and summarized below, the College of Graduate Health Sciences also offers an online graduate certificate in Clinical Research. This 12-credit hour certificate provides initial clinical research skills and training to healthcare professionals. All coursework is provided online, focusing on fundamentals of clinical investigation, biostatistics, epidemiology, and ethical and legal issues. The program is self-paced, but requires at least two terms for completion due to staggered Spring/Fall course offerings. Information regarding safeguards to student privacy and means through which to assure student identity when enrolled in online courses is summarized in the distance education/online instruction policy below.

ACADEMIC CALENDAR 2013 – 2014

Biomedical Engineering, Dental Science (Orthodontics and Prosthodontics), Epidemiology, Health Outcomes and Policy Research, Biomedical Sciences, Nursing Sciences, Pharmaceutical Sciences, Speech and Hearing Science

| Date | Activity | Class |
|--|--|-------------------------|
| Monday, July 1, 2013 | Tuition and Fees Due | All continuing students |
| Monday, July 1, 2013 | Academic year begins for continuing students | All continuing students |
| Monday, July 15, 2013 | 14 th Day Count | All continuing students |
| Thursday, August 8, 2013 | Orientation | 1st year students |
| Friday, August 9, 2013 | Arena registration | 1st year students |
| Monday, August 12, 2013 | Tuition and Fees Due | 1st year students |
| Monday, August 12, 2013 | Fall term begins | 1st year students |
| <i>Monday, September 2, 2013</i> | <i>University Holiday (offices closed)</i> | <i>All students</i> |
| <i>Thursday, November 28 – Friday, November 29, 2013</i> | <i>Thanksgiving Holiday (offices closed)</i> | <i>All students</i> |
| Friday, December 13, 2013 | Graduation | |
| Friday, December 20, 2013 | Last Day of Classes | All students |
| <i>Monday, December 23, 2013 - Friday, December 27, 2013</i> | <i>University Holiday (offices closed)</i> | <i>All students</i> |
| <i>Wednesday, January 1, 2014</i> | <i>University Holiday (offices closed)</i> | <i>All students</i> |
| Thursday, January 2, 2014 | Tuition and Fees Due | All students |
| Thursday, January 2, 2014 | Spring term begins | All students |
| <i>Monday, January 20, 2014</i> | <i>University Holiday (offices closed)</i> | <i>All students</i> |
| Wednesday, January 22, 2014 | 14 th Day Count | All students |
| Monday, March 10, 2014 - Friday, March 14, 2014 | Spring Break | All students |
| <i>Friday, April 18, 2014</i> | <i>University Holiday (offices closed)</i> | <i>All students</i> |
| <i>Monday, May 26, 2014</i> | <i>Memorial Day Break (offices closed)</i> | <i>All students</i> |
| Friday, May 30, 2014 | Graduation | |
| Friday, June 27, 2014 | Academic year ends for non-graduating students | All students |

Academic Calendar for Pediatric Dentistry and Periodontics

| Date | Activity | Class |
|--|--|---------------------|
| Monday, July 1, 2013 | Tuition and Fees Due | All students |
| Monday, July 1, 2013 | Academic year begins | All students |
| Monday, July 15, 2013 | 14 th Day Count | All students |
| Thursday, August 8, 2013 | Orientation | All students |
| Friday, August 9, 2013 | Arena registration | All students |
| <i>Monday, September 2, 2013</i> | <i>University Holiday (offices closed)</i> | <i>All students</i> |
| <i>Thursday, November 21 – Friday, November 22, 2013</i> | <i>Thanksgiving Holiday (offices closed)</i> | <i>All students</i> |
| Friday, December 13, 2013 | Graduation | |
| Friday, December 20, 2013 | Last Day of Classes | All students |
| <i>Monday, December 23 – Friday, December 27, 2013</i> | <i>University Holiday (offices closed)</i> | <i>All students</i> |
| <i>Wednesday, January 1, 2014</i> | <i>University Holiday (offices closed)</i> | <i>All students</i> |
| Thursday, January 2, 2014 | Tuition and Fees Due | All students |
| Thursday, January 2, 2014 | Spring term begins | All students |
| Wednesday, January 15, 2014 | 14 th Day Count | All students |
| <i>Monday, January 20, 2014</i> | <i>University Holiday (offices closed)</i> | <i>All students</i> |
| Monday, March 10, 2014 - Friday, March 14, 2014 | Spring Break | All students |
| <i>Friday, April 18, 2014</i> | <i>University Holiday (offices closed)</i> | <i>All students</i> |
| <i>Monday, May 26, 2014</i> | <i>Memorial Day Break (offices closed)</i> | <i>All students</i> |
| Friday, May 30, 2014 | Graduation | |
| Friday, June 27, 2014 | Academic year ends for non-graduating students | All students |

ADMISSION AND SELECTION

Admission Policies and Procedures

Regular students are students who seek admission to one of the doctoral or master's degree programs offered by the College of Graduate Health Sciences. Regular students must register for at least nine credit hours to be considered full-time, with the exception of the final term in which students may register for three credit hours and be considered full-time; however, registration for fewer than five credit hours may have financial aid consequences, so a student should consult with the Office of Financial Aid prior to registration. Individuals seeking admission as a regular student must submit an official application and must fulfill the admission criteria for the College, as well as the criteria of the respective program. Applications for regular students are available on The University of Tennessee Health Science Center Admissions page (<http://www.uthsc.edu/admissions/cghs.php>). At this site the prospective applicant click on "Apply Now!" located on the left panel.

Admission as a regular student requires a bachelor's degree or its equivalent with an undergraduate grade point average (GPA) of at least 3.0 (on a 4.0 scale) from an accredited college or university and a revised Graduate Record Examinations (GRE) combined score totaling at least 300 for verbal and quantitative sections. Some programs may require a higher GRE score for admission, and may accept other standardized entrance examinations. Three letters of recommendation from previous instructors or persons capable of judging the applicant's qualifications for graduate study are also required. For foreign applicants, evidence of proficiency in English or a Test of English as a Foreign Language (TOEFL) score of at least 79 (earned within 2 years prior to application) on the internet-based exam is also required. Each graduate program may have additional requirements hence prospective students are advised to visit the webpages of program of interest for such requirements.

Each program has an admissions committee to review applications and recommend the most qualified candidates for admission as a regular student. The number of positions available in each program is limited, so some students who meet minimum admission requirements may not be recommended for admission. The applications of those recommended for admission are forwarded to the Dean for final review of qualifications and position availability. The Dean will issue a formal offer of acceptance to successful applicants, who must return a signed form accepting or declining the offer.

The adequacy of preparation for graduate study may be determined from the applicant's record or by examination at the time the student makes application to the College. In the case of a student whose preparation for formal graduate study is inadequate, a program of prerequisite course work may be required as determined by the graduate program accepting the student. Such courses will not be credited toward meeting the formal course requirement for an advanced degree.

Students applying to the Joint Program in Biomedical Engineering may apply through either the University of Tennessee Health Science Center (<http://www.uthsc.edu/bme/>) or the University of Memphis (http://www.memphis.edu/bme/bme_future.php) websites. Applicants accepted into the Joint Program are admitted to both universities. For each student, one campus is designated as the administrative site. All actions related to assistantships, financial aid, immigration or other government forms, and graduation (e.g., application for candidacy, appointment of faculty committee, thesis or dissertation review and acceptance) are processed based on and follow the policies of the administrative site for a given student. In almost all cases, the administrative site chosen will be that of the student's Research Advisor.

If an applicant does not enter the College of Graduate Health Sciences in the term in which admission is requested, the student may enter at the beginning of either of the next two terms. However, applicants should be aware that some programs restrict entry to the Fall term. Once admitted and registered, students are expected to maintain continuous enrollment, unless permission is given for interrupted registration.

Admission to the College of Graduate Health Sciences entitles the student to register for graduate courses, but does not mean that he/she is admitted as a candidate for an advanced degree. Candidacy for an advanced degree will be determined after the student has satisfied criteria established by the program in which the student is enrolled and by the College of Graduate Health Sciences.

Options Related to Student Status

Regular students may enroll on a full-time or part-time basis. Students are required to enroll as full-time students upon becoming a candidate for their degree. Students who register for less than nine credit hours, with the exception of the final term, are considered to be **part-time**. Specific requirements and restrictions for duration of study and number of credit hours are detailed in the College bylaws (<http://grad.uthsc.edu/CollegeInfo/index.php?page=Bylaws>).

Non-degree students are those who wish to take courses offered by the college but who are not seeking admission to one of the degree programs. Students eligible to enroll under this mechanism are those who are employed by The University of Tennessee Health Science Center, students enrolled in other University of Tennessee Health Science Center colleges, or students who are enrolled at The University of Memphis. All others must apply for and be admitted to a program in the College of Graduate Health Sciences. A non-degree application must be completed six weeks prior to enrollment. Approval is provided on a space-available basis and requires permission of the Instructor and/or Program Director.

Individuals who wish to attend certain classes regularly, without taking examinations, receiving grades, or obtaining credit, may do so by registering as **auditors** and paying appropriate fees. Approval is provided on a space-available basis and requires permission of the Instructor and/or Program Director.

International applicants must present (1) a complete and accurate chronological outline of all previous education; (2) authorized college or university records, with certified translations if the records are in a language other than English; (3) evidence of financial resources sufficient to provide the student with adequate support during the period of registration as a student; (4) evidence of proficiency in English; (5) documentation that he/she can provide transportation from his/her country to The University of Tennessee Health Science Center and return; and (6) his/her transcripts evaluated by a professional credential evaluation service that includes calculation of the GPA (i.e., by a member of the National Association of Credential Evaluation Services (<http://naces.org>)). Any applicant whose first language is not English and who has earned neither a bachelor's nor a master's degree from a college or university in the United States, Canada, Great Britain, or Australia must have achieved a TOEFL score of at least 79 (earned within 2 years prior to application) to be admitted. Any applicant whose first language is not English but who has earned a baccalaureate or master's degree from a college or university in the United States, Canada, Great Britain, or Australia, may be exempted from the requirement for the TOEFL. If there is cause to doubt the student's proficiency in English (as determined by the Dean), the student may be required to take an English proficiency test prior to registration. The complete file, including the application, official certificates, descriptive titles of courses taken and detailed transcripts with marks gained in final examinations, must be submitted to the Office of Enrollment Services (910 Madison Ave., Suite 520, The University of Tennessee Health Science Center, Memphis, TN 38163) at least **three months in advance of the term in which admission is desired**. Transcript evaluation must be completed upon acceptance of the offer of admission and no later than July 1 in the year of matriculation. Successful applicants will receive a certificate of acceptance to be presented to the United States Consul with the application for a student visa. The University of Tennessee Health Science Center will not accept visas issued for admission to other colleges or universities.

All graduate students, except those on active military duty, will enroll each term. Students who need to leave the University for greater than four weeks must discuss their need with their advisor before making a written request for a leave of absence to their Program Chair (see Leave of Absence policy below).

Registration must be accomplished no later than the first day of classes each term. The academic calendar indicating these dates are listed above and are available at (http://www.uthsc.edu/registrar/academic_calendar.php). Each student should consult with the Program Chair or Director to devise a course schedule for each term. Each student must ascertain that their status is correct and is correctly noted during registration; tuition and fee status will be determined through the Office of the Bursar based on this information.

At the discretion, and with the permission, of the student's Research Advisor, courses may be dropped, added, or changed from credit to audit (or vice versa) within 15 calendar days after the beginning of the course (refer to the Dropping-Adding Courses policy below).

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Upon admission, students are invited to disclose any disabilities (with certification) to the Student Academic Support Services (SASS). The college will provide reasonable accommodations, as required by the student's documented disabilities with SASS, and at the student's written request to the Dean, College of Graduate Health Sciences. In summary, the mission of the college is to prepare students for the practice of biomedical research and teaching. The College of Graduate Health Sciences, in accord with Section 504 of the 1973 Vocational Rehabilitation Act and the Americans with Disabilities Act (ADA) (Public Law 101-336), has established the aforementioned essential functions of graduate students. The college will consider for admission applicants who demonstrate the ability to perform or to learn to perform the essential skills required for a career in biomedical research. Students will be judged primarily on their scholastic accomplishments in demanding academic courses as well as the ability to perform research and prepare a thesis or doctoral dissertation of high quality. Candidates will also be judged on physical and emotional capacities for a career in biomedical research.

Immunizations, Health Insurance, and Criminal Background check

All entering students must undergo tuberculin (TB) skin testing at registration and document prior immunity to measles, mumps, rubella, diphtheria, polio, and tetanus by recorded evidence of immunization. University Health Services ensures that students are immunized against hepatitis B. However, exceptions to this policy may be made for individual students making such a request by providing reasonable cause and by signing a statement of declination. For additional information on immunizations: <http://www.uthsc.edu/grad/CollegeInfo/index.php?page=Bylaws#Immunizations>.

All entering and continuing students must provide proof of health insurance, either through the University policy or through an independent policy. For more information refer to the following website: http://www.uthsc.edu/univheal/student%20services/health_insurance.php. The cost of the insurance is the responsibility of the student. In some cases, the cost of the health insurance is borne by specific stipend or grant funding.

All entering students must complete a criminal background check prior to matriculation (http://www.uthsc.edu/policies/w932_document_show.php?p=418). A negative finding will require investigation by the Associate Dean for Student Affairs and Recruitment, but does not necessarily preclude matriculation.

TUITION, FEES, AND OTHER EXPENSES

Information about tuition and fees for the individual programs in the College of Graduate Health Sciences may be found at http://www.uthsc.edu/finance/bursar/colleges_fee_information.php with additional information regarding estimated cost of attendance at <http://www.uthsc.edu/finaid/coa.php>.

Some programs may provide a stipend and recommend a tuition waiver for some students. Upon recommendation of the Program Chair and approval of the Dean, applicable tuition may be waived. Such a waiver of tuition will be made available to students in return for creditable service as determined by the program. Fees cannot be waived.

Doctoral students may be granted a waiver of tuition for up to six years and the College may grant master's-only students a waiver of tuition for up to four years. If a student fails to complete all the requirements for the degree by the allotted time, the student or the program will be responsible for paying tuition until the requirements for the degree are completed. Only full-time students, as defined by the College, are eligible to receive a waiver of tuition.

Students who choose to obtain employment at another institution or attend another educational institution while continuing to pursue their degree will not be eligible to receive a stipend, insurance, or waiver of tuition.

Students may access information regarding required books for any and all the courses in their program by going to www.uthsc.bncollege.com. In some programs, specific software may be required that is either provided or must be purchased. The student must have a computer compatible with the software.

SCHOLARSHIPS AND FUNDING

The University of Tennessee Health Science Center has available Graduate Research Assistantships (GRA) that may be awarded to successful applicants to the various Ph.D. degree programs and to applicants to the M.S. degree Joint Program in Biomedical Engineering. Research performed by recipients of a GRA is under the direct supervision of the student's Research Advisor; part of the research training may also include assistance in teaching. In addition, a limited number of fellowships and scholarships are awarded on a competitive basis and may be continued so long as the student is making exemplary progress toward the degree.

During the first, and in some cases part of the second, year of study, The University of Tennessee Health Science Center provides a limited number of GTA/GRA appointments with stipends to qualified students; these are generally accompanied by a waiver of tuition and payment of the student's health insurance premium for up to six years of study. Stipend support following the first year is funded from research grants, training grants, or special pre-doctoral fellowships awarded by outside agencies. The student makes applications for these latter fellowships directly to the awarding agency; the Dean of the College will periodically announce the availability of these fellowships.

Students may access information regarding Financial Aid, including information on applying for financial aid, financial literacy counseling, and general student loan information at <http://www.uthsc.edu/finaid/>. Emergency loans are also available in amounts up to \$600, which must be repaid within 60 calendar days (http://www.uthsc.edu/finance/bursar/loan_information.php).

Scholarships in particular areas of research are also available, depending upon current financial obligations. Further information about any of the fellowships or scholarships listed below is available from the Office of the Dean or at <http://grad.uthsc.edu/StudentInfo/Funding/index.php?page=Scholarships>.

Available scholarships:

Lee and Jennie Beaumont Endowment Fund

Fellowships are awarded for research in the field of arthritis and connective tissue diseases.

Belz Family Scholarship Endowment Fund

Scholarships are awarded to incoming students based on scholastic ability, leadership potential, and dedication to the health sciences as a career and profession.

CGHS Travel Awards/John Autian Student Enrichment Fund

A limited number of travel awards (TA) to national meetings are available for students in the College of Graduate Health Sciences. To be considered, students must be registered full-time and have been admitted to Ph.D. or M.S. candidacy at the time the application. TAs will be awarded only to students who have been accepted to present a paper, abstract, or poster. Applications should be received in the Dean's Office.

Morton H. and Myra M. Friedman Scholarship Endowment Fund

Scholarships are awarded to students in the interdisciplinary program and whose research advisor is in the Department of Anatomy and Neurobiology. The awards are based on scholastic ability, financial need, dedication to anatomy as a career or profession, and community involvement.

Edward and Bernice Humphrey Scholarship Endowment Fund

Scholarships are awarded to incoming students based on scholastic ability, leadership potential, and dedication to health science research as a career and profession.

Hal and Alma Reagan Endowment Fund

Fellowships are awarded to students working in the area of cancer research. To be considered, a student must be in the second through fourth year of study and involved in research into the causes of and possible cures for cancer. Applicants should submit the following to their Program Graduate Training Committee:

1. Completed application form
2. Curriculum vitae
3. Transcript (undergraduate and graduate)
4. Two letters of recommendations (one from the student's research advisor)

All programs/tracks in the College may submit one finalist per year. The application is due in the Dean's office by September 1 of each year.

Under some circumstances, full-time graduate students are permitted to supplement the stipend by employment within or outside the institution. It is a conflict of interest for a student to work for a member of the student's Faculty Committee. It is the responsibility of the Program Chair and the student's Faculty Committee to determine whether such employment interferes with the expectations of that program regarding the student's acceptable progress in course and research work and in the amount of time the student is expected to spend in research and service. If the Program Chair determines that employment would interfere or would be a conflict of interest with the student's program, the Chair may limit such employment.

POLICIES

Complete information on all College of Graduate Health Sciences policies is available at <http://cghs.uthsc.edu/CollegeInfo/index.php?page=Bylaws>.

Attendance Policy

Students are expected to attend the various experiences as an expression of their professional commitment and dedication. Each program or instructor will specify attendance policies related to specific events within their curriculum. A student who misses a required event for good cause will be given the opportunity to make up the experience, if possible.

A student may request to withdraw from their program on a temporary basis, generally for less than a year. Upon approval of their Program Chair or Director, and the Dean, a leave of absence may be granted without the need to re-apply to the program. Failure to return to the program on the specified date of return will result in withdrawal from the program and the student will be required to re-apply. A student who is absent for more than four weeks without permission will be withdrawn from their program and must re-apply.

Grading Policies

The College grading policies, using A, B, C, etc., do not provide sufficient resolution to be fair to all students. Therefore, the following system of grades, with equivalent quality point value, is adopted:

- A 4.0
- A- 3.67
- B+ 3.33
- B 3.00
- B- 2.67
- C+ 2.33
- C 2.00
- C- 1.67
- D 1.00
- F 0

Grades **P** (for progress) and **N** (for no progress) are used for grading work in research. These grades are not included in calculating the grade point average (GPA).

The following grading policies are applicable for graduate students:

- The grade of **D** is computed in the scholastic average but does not carry credit toward a degree. No graduate student will be allowed to repeat a course for the purpose of raising a grade.
- The designations **WP** or **WF** will be recorded to indicate pass or failure in those instances in which a student withdraws from a course before completing the work. *If less than 10% of the course assessments have been completed, the grade recorded is simply W.* Withdrawals are not allowed after the seventh week of the class.
- The designation **I** will be used in those instances in which a student is unable to complete a course at the regular time because of an acceptable reason, but is performing at a passing level. In such cases, arrangements are to be made by the instructor for the student to complete the work, and the **I** is to be replaced by whatever grade the instructor considers the student to have earned.
- The **I** designation cannot be permanent on a student's record, and must be removed by the end of the term following that in which it was received. In the case of a graduating student, this designation must be removed no later than the day before commencement. Failure on the part of a student to remove an **I** within the time limit allowed will result in the grade of **F** being reported and recorded as a permanent grade.

Certain marginally failing students, as specified and recommended by appropriate progress and promotions committees, may record a passing score in a course previously failed by self-study review of the course and re-examination. In such cases, a \$50 re-examination fee will be assessed. Students are required to register for the examination through the Office of the Registrar and pay the fee prior to taking the reexamination. When courses are repeated or credit is earned through reexamination, both the original grade and the repeat grade are computed in the grade point average.

Appeal of Grades

Students may appeal a grade if they feel that the grade was assigned inappropriately and not in accord with the course statement of policy distributed at the beginning of the course. The appeal is directed to the course director and then to the Program Chair. If resolution of the issue is not made at the program level, then appeal is made in writing to the Dean. The Dean or designee may appoint an Ad Hoc Committee of faculty to review the appeal and make a recommendation to the Dean for decision.

Dropping/Adding a Course

At the discretion, and with the permission, of the student's Research Advisor, courses may be dropped or added within 15 calendar days after the beginning of the course. The course instructor's permission is not required. A course in which greater than 10% of the assessments have been completed cannot be dropped (refer to Grading Policies above).

Auditing a Course

Individuals who wish to attend certain classes regularly, without taking examinations, receiving grades, or obtaining credit, may do so by registering as auditors and paying appropriate fees. Approval is provided on a space available basis and requires permission of the instructor and research advisor/program director (for degree-seeking students).

Leave of Absence/Withdrawal Process

All students, except those on active military duty, will enroll each term. Students are allowed up to two weeks per year of short-term leave. Short-term leave does not excuse a student from academic requirements. See <http://www.uthsc.edu/grad/CollegeInfo/index.php?page=Bylaws#Leave> for more information.

Students who need to leave the institution for more than four weeks (i.e., long-term leave) must discuss their need with their advisor before making a written request for a leave of absence to their Program Chair. The Program Chair will forward the request, along with a recommendation, to the Dean. If the Dean does not grant the leave of absence, the student may appeal the decision as described below and in the College bylaws under “Academic Due Process” (<http://grad.uthsc.edu/CollegeInfo/index.php?page=Bylaws#DueProcess>). Leave of absence is typically granted for a term, and for no longer than two terms without extenuating circumstances. A long-term leave of absence may have financial aid consequences that should be discussed with the Office of Financial Aid.

Family and Medical Leave will be granted for up to 60 calendar days for the adoption or the birth of a child or to care for immediate family members with serious health problems (<http://grad.uthsc.edu/CollegeInfo/index.php?page=Bylaws>). Either parent is eligible for parental leave. Whether a stipend is paid during this leave depends upon the granting agency regulations for the stipend.

Students who are absent from their academic responsibilities for more than four weeks without approval of the Dean will receive non-passing grades in all courses for which they are enrolled and be withdrawn from the College. To re-enter the University after withdrawal, students must formally reapply.

Student Identification Badges

Students are required to prominently display their identification badge(s) on their person at all times while on campus or an affiliated laboratory or facility. Students at facilities that require additional identification will follow the policies of that facility.

Grade Point Average Requirements

The minimum cumulative GPA needed for successful progress is established and communicated to the student in writing by each program. This GPA level may be higher, but not lower, than 3.0, which is the standard of the College. If, after 18 credit hours of regular class work, a student's cumulative GPA falls below the minimum, or if, in the view of the student's Faculty Committee, the student is not making adequate progress, including research, the case is reviewed by the program's Graduate Studies Committee or equivalent. The committee will then submit a recommendation to the Program Chair or Program Director for resolution of the deficiency. The plan will be communicated to the Dean for review. After consideration of the plan and other factors relevant to the student's progress, the Dean will decide whether to allow the student to continue in the program.

Distance Education/Online Instruction

Distance education students will be required to perform class activities through the secure Blackboard™ system used by the institution. Use of this system requires a netID and password. Sharing passwords or misrepresentation of the identity of the individual performing class activities is cause for dismissal. Student privacy is maintained by using the secure system, as only the instructor will have access to secure information. All online courses and activities will be evaluated in the same manner as other courses (<http://grad.uthsc.edu/CourseInfo/CoursEval/index.php?page=CoursEvalInfo>). There are no additional fees for distance education students.

COMMUNICATION

The official method of communication between students and their respective departments, programs or the dean's office is through the UTHSC email system. Students must check their email at least once each day to avoid missing vital information. The College uses e-mail as its official mode of communication (<http://grad.uthsc.edu/CollegeInfo/index.php?page=Bylaws&Email#Email>).

PROFESSIONALISM

It is the expectation of all students enrolled at the UTHSC to maintain the high ethical and professional standards of the various disciplines of the health professions. Failure to do so may subject a student to suspension or other appropriate remedial action by the University as outlined in *CenterScope*, Maintenance of Ethical and Professional Standards of the Health Professions (<https://www.uthsc.edu/centerscope/>).

The goal of the College of Graduate Health Sciences is the broad preparation of students for the practice of research. This goal is achieved in part by graduate education in preparation for life-long learning. Modern graduate education requires that the accumulation of scientific knowledge be accompanied by the simultaneous acquisition of skills, attitudes, and behavior. The faculty has the responsibility to graduate the best possible scientists; thus, admission to the college is offered to those who present the highest qualifications for graduate study.

Students matriculating to the college must possess the following general qualities: critical thinking, sound judgment, emotional stability and maturity, empathy, physical and mental stamina, as well as the ability to learn and function in a wide variety of educational settings. Students must also be able to communicate effectively in oral and written form. They must possess essential functions of conceptual, integrative, and quantitative skills, including measurement, calculation, reasoning, analysis, and synthesis. Problem solving in research requires all of these intellectual abilities. In addition, applicants should be able to comprehend three-dimensional relationships and to understand the special relationships of structures.

Students must exhibit behavioral and social skills and professionalism. Empathy, integrity, interpersonal skills, interest, and motivation are all personal qualities that will be assessed during the admissions process and throughout graduate education. Students must possess the emotional well-being required for the full use of their intellectual abilities; the exercise of sound judgment; and the development of mature, sensitive, and effective relationships with their peers. Students must be able to tolerate the generally taxing demands of laboratory research and to function effectively when stressed. They must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of the uncertainty inherent in research.

PROGRESS, PROMOTION, AND GRADUATION

Students must achieve satisfactory academic progress in order to receive federal financial aid. The Financial Aid Department's satisfactory academic progress standards mirror the academic progress policies of the College of Graduate Health sciences. A student who is found to not be making academic progress by the college is not eligible for federal financial aid. This rule may also apply to state, institutional, and private funds. For more information refer to *CenterScope*, Satisfactory Academic Progress, (<https://www.uthsc.edu/centerscope/>).

Admission to Candidacy

Graduate education requires continuous evaluation of the student. This evaluation includes not only periodic objective evaluations such as the GPA, performance on comprehensive examinations, and acceptance of the thesis or dissertation, but also subjective appraisal by the faculty of the student's progress and potential. Continuation of graduate study within the College results from positive action taken by the program's Graduate Studies Committee. Grades are not necessarily the sole criterion used in determining whether or not a student is permitted to continue. Other attributes, primarily those concerned with the level of professionalism expected of a student in a particular discipline, may be considered.

Programs may have requirements for continuation or graduation in addition to the minimum requirements as set forth in the present Catalog. It is the student's responsibility to be familiar with the special requirements of the program.

Academic Due Process

If a student is denied continuation in a program, the student has a right to a hearing at the program level before the Graduate Studies Committee or any other appeals committee that the Program Chair deems appropriate. The student must be informed in writing by the Dean of the reason for termination from the program and of the right to appeal. A written request by the student to the Program Chair for such a hearing must be filed within 5 working days after receipt of the written notification of the original action. The hearing should be scheduled by the Chair promptly but should allow sufficient time for the student and the program to prepare. At the appeals hearing, both the student and the program representative should present pertinent written and oral documentation, which may include statements by and examination of witnesses. The student may bring any person(s), excluding legal counsel, whom the student feels can contribute to the presentation. Committee consideration is conducted without the presence of legal counsel. Confidential records will be kept of all proceedings. The result of this hearing will be communicated in writing to the student within 5 working days of the hearing excluding holidays and administrative closings.

If the student is not satisfied with the outcome of this hearing, the student has the right to appeal this recommendation before an ad hoc appeals committee appointed by the Dean. A written request for such an appeal must be filed with the Dean within five days of the notification of the results of the program hearing. If the student does not file such an appeal within this time, the Dean will inform the student in writing of the dismissal from the program.

The ad hoc appeals committee will be formed from the graduate faculty and may include a student member. The ad hoc appeals committee has the right to examine witnesses appearing before the Graduate Studies Committee of the program in support of the student or in support of the action taken by the program. The appeals committee will make a recommendation to the Dean or designee who will then make a decision and communicate this decision in writing to the student within 10 working days.

During the period in which appeals are scheduled at the program or College level, the student will continue to receive a stipend. However, if the student is dismissed after decision by the Dean or designee, stipend support will cease. The decision of the dean is final in such cases, however, in the case where a student is dismissed, the student has the right to appeal to the Chancellor for readmission to the program if the student believes there were inherent flaws or biases in the process leading up to dismissal.

Degree Completion and Graduation

Following admission to degree candidacy, a student completes any additional coursework or research; in the case of the Ph.D. degree, an additional term of work is required. The student is required to have both an oral and written final examination. The oral final examination is a public event. The written examination is in the form of a project (publication, literature review), thesis, or dissertation. Successful completion of the final examinations is necessary for awarding of the degree.

Degrees are conferred three times throughout the year: May, August and December. Students receiving degrees either in May or December are required to attend commencement. Those students unable to attend must make a request to the Dean in writing and make arrangements with the Office of the Registrar to pick up their diploma following the commencement date (a minimum of five business days after the date of commencement). A student who successfully defends and submits their final thesis or dissertation by noon May 1 may participate in the May graduation ceremony and receive their diploma at that time. Diplomas will be available for August graduates five business days after the degree conferral date.

SPECIAL AWARDS AND HONORS

The college offers the following awards and honors to students: Lee and Jennie Beaumont Endowment Fund; Belz Family Scholarship Endowment Fund; Morton H. and Myra M. Friedman Scholarship Endowment Fund; Edward and Bernice Humphrey Scholarship Endowment Fund; Hal and Alma Reagan Endowment Fund; and the CGHS Travel Awards/John Autian Student Enrichment Fund. A description of each award and the criteria for award may be accessed at the following website: <http://www.uthsc.edu/grad/StudentInfo/Funding/index.php?page=Scholarships>

CURRICULUM SUMMARIES AND PROGRAM-SPECIFIC REQUIREMENTS

Additional information regarding each program in the College is available at <http://grad.uthsc.edu/Programs/index.php?page=Programs>.

MASTER OF DENTAL SCIENCE

Program Description

The College of Dentistry of the University of Tennessee Health Science Center has established a Master of Dental Science program under the auspices of the College of Graduate Health Sciences. The purpose of the program is to provide a contemporary research experience in the areas of orally related sciences to dentists enrolled in the clinical specialty programs of the College of Dentistry. The course and research requirements of the Master's of Dental Science provide individuals with both a traditional and contemporary knowledge of the role of research in the clinical management of orofacial abnormalities and diseases. The goal of the program is to train dental specialists to pursue several career possibilities, including specialty practice, research, or teaching, with the increased knowledge of the interrelationship among clinical dentistry, basic science, and research.

The Master of Dental Science degree is offered in five areas of concentration. The degree is awarded upon completion of the requirements of the advanced education programs in endodontics, orthodontics, pediatric dentistry, periodontology, and prosthodontics. The general policies, procedures, and requirements of the College of Dentistry clinical training programs apply to Master of Dental Science students as well.

Admission and Selection

Only students accepted to postgraduate certificate programs in the UTHSC College of Dentistry can make application to the Master of Dental Science program. Applicants must hold a D.D.S or D.M.D. degree with a grade-point average of at least 3.0 from an accredited college or university. Applicants generally must have a combined score (verbal and quantitative) of at least 300 on the revised Graduate Record Examination, a score of at least 213/79 on the computer-based/Internet-based TOEFL or 6.5 on the IELTS or evidence of proficiency in English for students whose native language is not English, and three letters of recommendation. Selection is based upon academic and research potential.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Curriculum Summary and (Typical) Sequence

Fall 1

| Course | Cr Hrs |
|---|----------|
| DSCI 805-001: Biomedical Core I – Histology/Embryology | 1 |
| DSCI 805-002: Biomedical Core I – Experimental Design | 1 |
| DSCI 805-003: Biomedical Core I – Microbiology/Immunology | 1 |
| DSCI 800: Thesis Research | 1-3 |
| Clinical Specialty-specific courses | 3-5 |
| Total | 9 |

Spring 1

| Course | Cr Hrs |
|--|----------|
| DSCI 806-001: Biomedical Core II – Oral Biology | 1 |
| DSCI 806-002: Biomedical Core II – Biostatistics | 1 |
| DSCI 806-003: Biomedical Core II – Biomechanics & Biomaterials | 1 |
| DSCI 806-004: Biomedical Core II – Craniofacial Anatomy | 1 |
| DSCI 800: Thesis Research | 1-3 |
| Clinical Specialty-specific courses | 2-4 |
| Total | 9 |

Fall 2

| Course | Cr Hrs |
|-------------------------------------|----------|
| DSCI 800: Thesis Research | 4 |
| Clinical Specialty-specific courses | 5 |
| Total | 9 |

Spring 2

| Course | Cr Hrs |
|-------------------------------------|----------|
| DSCI 800: Thesis Research | 4 |
| Clinical Specialty-specific courses | 5 |
| Total | 9 |

Fall 3

| Course | Cr Hrs |
|-------------------------------------|---------------|
| DSCI 800: Thesis Research | 8 |
| Clinical Specialty-specific courses | 1 |
| Total | 9 |

Spring 3 (if necessary)

| Course | Cr Hrs |
|-------------------------------------|---------------|
| DSCI 800: Thesis Research | 8 |
| Clinical Specialty-specific courses | 1 |
| Total | 9 |
| TOTAL FOR THE DEGREE | 54 |

Promotion and Graduation

Students must maintain a 3.0 grade point average or greater throughout the program.

Examination Requirement

Prior to admission to candidacy, the student's Department may require the student to pass a comprehensive general examination. This examination will be conducted by the student's MDS Program and will cover the general field of major study. It is anticipated that this examination will be oral in nature although a written examination may also be used. Presentation and defense of the student's written research protocol may be a suitable examination format.

The unsuccessful candidate may request a second examination by the Department, which, if approved, may not be given before the end of the term in which the candidate was first examined. The result of the second examination is final.

Admission to Candidacy

Each graduate student enrolled in a degree program is responsible for filing an Application for Admission to Candidacy for the MSD. Application can only be made after successful completion of prerequisite courses and two complete years of graduate course work. Only after certification by the student's Faculty Committee and MDS Program Director, as well as the Chair of the student's Department and/or Clinical Program Director, will the student be considered for admission to candidacy. Certification indicates that the student has successfully completed sufficient graduate courses to establish credibility as a graduate student.

Admission to candidacy status for the MDS degree must be granted no later than the end of the second month in the term in which the thesis is to be presented to the college. Application is to be made to the CGHS and signed by the MDS Program Chair.

Research, Electronic Thesis and Oral Defense

One of the requirements for the MDS degree is the conduct of an approved research project intended to demonstrate a high level of student scholarship and ability to conduct independent research, and contributes to the foundation of knowledge in the student's major area of study. This part of the student's program involves the initiation, conduct, completion, analysis, documentation, and presentation of a research project in the form of a thesis and oral defense. The student, in consultation with his or her Faculty Committee and the MDS Program Director or Department Chairperson will determine the subject of the research. While the originality and quality of the research should be above reproach, the scope of the research project should be in keeping with the MDS degree level.

The Electronic Thesis (ET) refers to MDS terminal document, and other related or associated documents, written in partial fulfillment of the requirements for MDS degrees conferred by the University. The series of policies have been established by the ET/D Task Force Group directed by the CGHS Assistant Dean for Academic Affairs, responsible for the ET/D program. These policies direct the production of the required thesis document.

The final oral defense of the research shall be publicized to the University community and shall be conducted by the Faculty Committee (acting as a thesis committee) according to program guidelines. When the defense is successfully completed, a [Report of Final Examination](#) is signed by all Faculty Committee members and forwarded to the Dean of the CGHS. The thesis, in final form, must be submitted to the Associate Dean for Academic Affairs of the CGHS by noon on May 1 if graduation is anticipated that term.

Completion of the MDS Program

Before a MDS degree is awarded the following, without exception, are required:

1. The academic, clinical, and residency requirements established by the College of Dentistry and the student's program must be satisfied.
2. All responsibility for patient care must be discharged according to Departmental policy and the College of Dentistry's Office of Academic Affairs.
3. The student must be enrolled during the term in which the degree is awarded. Students enrolled in a MDS degree program must be registered for the term in which the final thesis defense is conducted.
4. Delinquent financial accounts, including tuition payments, fees, library fines, parking tickets, etc., which are due the University must be paid.
5. Keys and identification cards must be turned in according to University rules.
6. A formal exit process must be followed (the Graduation Checklist).
7. The final, approved version of the thesis must be managed according to College of Graduate Health Sciences (CGHS) rules.
8. Students enrolled in a MDS degree program are required to attend University commencement exercises at the conclusion of their program.

MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING (Joint Degree with the University of Memphis)

Program Description

The UTHSC College of Graduate Health Sciences together with the Department of Biomedical Engineering at The University of Memphis offers a Joint graduate program leading to the MS degree in Biomedical Engineering (BME). As a special field, BME applies engineering, physical sciences, and mathematical methods to problems involving health care; it demands close integration of many areas and forms of knowledge including the areas listed above, the life and health sciences, and current practice in clinical care.

The program's primary faculty are divided equally between the two campuses and offer academic and research activities in four major sub-disciplines of biomechanics, biomaterials and regenerative technology, biosensors and electrophysiology, and bioimaging: (1) Biomechanics and rehabilitation engineering, including orthopedic implants, prosthetic devices and design engineering; (2) Cell and tissue engineering, focusing on the cardiovascular system and including artificial organs, biomaterials, and hemodynamics; (3) Electrophysiology, including measurement methods, modeling and computation, and signal analysis; and, (4) Imaging, including novel medical image-acquisition devices, computational image processing, and quantitative analysis techniques. These sub-disciplines are bolstered by collaborations with secondary and adjunct faculty at the two universities and other affiliated institutions.

Admission and Selection

Admission as a full-time student requires a bachelor's degree or its equivalent with an undergraduate grade point average of at least 3.0 from an accredited college or university and a combined score totaling at least 300 for the verbal and quantitative sections of the revised Graduate Record Examinations (GRE). Individuals with a professional or graduate degree in science from an accredited US/Canadian institution, or with scores from other commonly recognized standardized graduate admissions exams, may petition for an exception. Three letters of recommendation from previous instructors or persons capable of judging the applicant's qualifications for graduate study are also required. Any applicant to the graduate program whose first language is not English and who has earned neither a bachelor's nor a master's degree from a college or university in an English-speaking country must have achieved a TOEFL score of at least 213/79 on the computer-based/Internet-based exam or an IELTS score of 6.5 (earned within 2 years prior to application). Any applicant to the CGHS whose first language is not English but who has earned a baccalaureate or master's degree from a college or university in an English-speaking country where instruction was in English may be exempted from the requirement for the TOEFL or IELTS examination.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Curriculum Summary and (Typical) Sequence

Fall 1

| Course | Cr Hrs |
|---|-----------|
| BIOM 801: Biomedical Engineering Analysis I | 3 |
| BIOM 811: Life Sciences for BME I | 3 |
| BIOM 815: Biomedical Measurements and Instrumentation | 3 |
| BIOM 803-001: Professional Development | 3 |
| Total | 12 |

Spring 1

| Course | Cr Hrs |
|--|-----------|
| BIOM 821: Life Sciences for BME II | 3 |
| Math Elective | 3 |
| Engineering Elective | 3 |
| BIOM 803-002: Professional Development | 3 |
| Total | 12 |

Fall 2

| Course | Cr Hrs |
|---|-----------|
| Elective (measurement or control theory) | 3 |
| Engineering Elective | 3 |
| BIOM 800 or 804: Thesis Research or Masters Project I | 3 |
| BIOM 803-002: Professional Development | 3 |
| Total | 12 |

Spring 2

| Course | Cr Hrs |
|--|------------|
| Engineering Elective | 3 |
| Engineering Elective* | 3* |
| BIOM 800 or 824: Thesis Research Masters Project II* | 3* |
| Total | 9 |
| TOTAL FOR THE DEGREE | 45* |

*These courses may be required for completion of the degree. The thesis option requires 33 credit hours in addition to the thesis; the project option requires 36 credit hours. Additional courses may be required to maintain full-time status.

Graduation Requirements

Students must maintain a 3.0 grade point average or greater throughout the program.

Examination Requirement

Prior to admission to candidacy, students pursuing the project option must pass a comprehensive written examination (Level A exam). This examination is given in the third term of the student's curriculum and has four sections covering the topics of life sciences, mathematics, instrumentation, and biomedical engineering. A student must pass three of the four sections of the exam.

Admission to Candidacy

The student must apply for degree candidacy no later than the end of the second month in the term in which the thesis or project is to be presented to the college. Application may be made only after the student successfully completes the prerequisite courses and 18 semester credit hours of graduate course work.

Admission to candidacy for the master's degree requires (1) certification by the student's Faculty Committee and the Program Chair that the student has successfully completed sufficient graduate courses and has demonstrated an ability to do graduate work of satisfactory character and (2) approval by the Dean of the student's proposed program. The Dean will inform the Program Director of admission to candidacy. Upon admission to candidacy, all master's students must be enrolled full-time, unless an exception is approved by the Dean.

Research, Electronic Thesis and Oral Defense

Requirements for the master's degree include the successful completion of a suitable research problem, the student's demonstration of scholarly attainment, and the potential to do independent research. This phase of the master's program takes the form of a major research project reported in the form of a thesis or project. The subject of the research shall be determined by the student in consultation with Faculty Committee members and the Program Chair. The scientific content and style of the thesis are the responsibility of the student and student's Faculty Committee. The thesis must be formatted and delivered according to the electronic thesis and dissertation policies outlined in these bylaws under "ET/D Program Policies".

The final oral defense of the research shall be publicized to the University community and shall be conducted by the student's Faculty Committee. When the defense is successfully completed, a Report of Final Examination is signed by all Faculty Committee members and forwarded to the Dean of the CGHS.

MASTER OF SCIENCE IN BIOMEDICAL SCIENCES with a concentration in Laboratory Research and Management

Program Description

The College of Graduate Health Sciences offers a 16-month 35-credit program leading to the degree of **Master of Biomedical Sciences with a concentration in Laboratory Research and Management**. The mission of this program is to train qualified individuals in the advanced technical, managerial, and administrative skills required to be a Senior Research Assistant/Lab Manager in basic and translational biomedical research laboratories in the academic, government and private biotech sectors. Candidates in this three-term program will receive training in four integrated components:

1. **Basic Science** - Candidates will take existing graduate level courses in Biochemistry, Cell Biology, and Molecular Biology to advance their knowledge and understanding of biological disciplines that are critical for functioning in a basic or translational biological research laboratory.
2. **Technical** - Candidates will be trained in both the theoretical and operational aspects of laboratory methodology and critical mathematical calculations. This will include molecular biology methodologies, procedures in animal experimentation, statistical analysis, bioinformatics, scientific communication, scientific graphic design and basic laboratory equipment maintenance and repair.
3. **Administrative** - Candidates will be trained and/or certified in radiation, biohazard, animal handling, human tissue handling, general safety compliance issues, the ethical conduct of scientific research, personnel management, conflict resolution, laboratory inventory management, and laboratory finance management.
4. **Practical** - Candidates will put their skills to practical use through a 6-month research laboratory internship.

Admission and Selection

Admission as a full-time student requires a bachelor's degree or its equivalent with an undergraduate grade point average of at least 3.0 from an accredited college or university and a combined score totaling at least 300 for the verbal and quantitative sections of the revised Graduate Record Examinations (GRE). Individuals with a professional or graduate degree in science from an accredited US/Canadian institution, or with scores from other commonly recognized standardized graduate admissions exams, may petition for an exception. Two letters of recommendation from previous instructors or persons capable of judging the applicant's qualifications for graduate study are also required. Any applicant to the graduate program whose first language is not English and who has earned neither a bachelor's nor a master's degree from a college or university in an English-speaking country must have achieved a TOEFL score of at least 213/79 on the computer-based/Internet-based exam or an IELTS score of 6.5 (earned within 2 years prior to application). Any applicant to the CGHS whose first language is not English but who has earned a baccalaureate or master's degree from a college or university in an English-speaking country where instruction was in English may be exempted from the requirement for the TOEFL or IELTS examination.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Curriculum Summary and (Typical) Sequence

Students will participate in a rigorous academic curriculum that combines didactic courses, conference discussions and hands-on training over three terms:

Fall 1

| Course | Cr Hrs |
|--|----------|
| IP 806: Biochemistry | 3 |
| IP 841: Essentials of Cell Biology | 3 |
| BIOE 845: Biostatistics for Integrated Biomedical Sciences | 2 |
| PATH 802: Journal Club | 1 |
| Total | 9 |

Spring

| Course | Cr Hrs |
|---|-----------|
| IP 805: Essentials of Molecular Biology | 3 |
| MSCI 935: Techniques – Methods for Nucleic Acids | 2 |
| PATH 803: Molecular Biology Techniques for Laboratory I | 1 |
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| MSCI 814: Bioinformatics I | 2 |
| MSCI 815: Bioinformatics II | 1 |
| Total | 10 |

Fall 2

| Course | Cr Hrs |
|--|-----------|
| MSCI 929: Techniques in Molecular Biology | 4 |
| PATH 804: Molecular Biology Techniques Laboratory II | 1 |
| CMED 711: Essentials in Animal Experimentation | 2 |
| PATH 801: Laboratory Management | 2 |
| IP 800: Masters Research (Internship) | 9 |
| Total | 18 |
| TOTAL FOR THE DEGREE | 37 |

Promotion and Graduation

Students must maintain a 3.0 grade point average or greater throughout the program. At the end of the second month of the third term, an oral presentation by the student to their advisor and two additional faculty members (the student's faculty committee) will determine whether the student advances to candidacy for the degree.

Admission to Candidacy

To successfully advance to candidacy for the degree, the student must:

1. demonstrate the core knowledge in their field that was imparted by course work, independent study, and original research;
2. apply knowledge, critical thinking, and analysis to synthesize oral arguments in defense of their work thus far;
3. apply knowledge, critical thinking, and analysis to synthesize a written synopsis of the advisor's laboratory operations;
4. demonstrate professional and ethical conduct in academic and research activities.

Following completion of the internship (PATH 800), a degree candidate must again demonstrate these outcomes with a written and oral presentation to their faculty committee. Approval of the faculty committee is required for completion of the degree requirements.

MASTER OF SCIENCE IN EPIDEMIOLOGY

Program Description

Epidemiology is the study of the distribution and determinants of health and disease in populations. Its role has expanded over the past 20 years to involve all facets of health care, disease prevention, and health promotion. In addition to being the basic science of public health, epidemiology has emerged as an important discipline for nursing, allied health science, and clinical medicine, especially in the managed-care environment. The Master of Science program (36 credit hours minimum) is designed to provide the necessary methodological skills for students to be able to independently pursue epidemiological research in their chosen areas. As part of the program, students receive training in epidemiology, biostatistics, health research methods, and health behavior and promotion.

The program emphasizes training current health professionals to develop and enhance their knowledge of epidemiology, research design, and data analysis skills. Students holding an advanced degree at the master's or doctoral level may opt for a nonthesis track in which the student prepares a quantitatively based research article, approved by the student's committee, which must be submitted for publication in a professional epidemiology-related, peer-reviewed journal. Track selection, for clinical investigation or traditional epidemiology, should be made by the end of a student's first year in the program. Regardless of track, students present their thesis or submitted article in an announced forum with subsequent defense before the student's committee.

Admission and Selection

The program is offered to qualified applicants holding a baccalaureate, master's, or professional degree in a variety of disciplines, including physical, biological, and social sciences, health and medical sciences.

Minimum Admission Requirements

Admissions will be determined based on strength of academic credentials, maturity of interest, and fit with faculty interests.

Applicants should meet the following requirements:

- Bachelor's degree with a grade-point average of at least 3.0 on a 4.0 scale from an accredited college or university;
- Official academic transcripts (international applicants must arrange for an independent educational equivalency evaluation company to submit an evaluation of their transcripts to UT at their own expense; the evaluation report should include the grade-point average based on a 4.0 scale);
- An application form including 200-word- minimum essay with goal statement describing the applicant's area of interest in epidemiology;
- 3 letters of recommendation;
- GRE revised test minimum verbal score of 150, minimum quantitative score of 150, and minimum analytical writing score of 3.5 (physicians licensed in the United States and persons with advanced terminal degrees may petition for waiver of the GRE);
- TOEFL minimum score of 213 on the computer-based exam, or 79 on the Internet-based exam, for applicants whose first language is not English.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Curriculum Summary and (Typical) Sequence

Fall 1

| Course | Cr Hrs |
|--|-----------|
| BIOE 811: Biostatistics I | 3 |
| BIOE 812: Introduction to Epidemiology | 3 |
| BIOE 813: Fundamentals of SAS for Epidemiology | 3 |
| BIOE 819 or 820: Master's Seminar | 1 |
| Total | 10 |

Spring 1

| Course | Cr Hrs |
|---------------------------------|-----------|
| BIOE 821: Biostatistics II | 3 |
| BIOE 822: Advanced Epidemiology | 4 |
| Elective* | 3 |
| Total | 10 |

Fall 2

| Course | Cr Hrs |
|--|----------|
| BIOE 800 or 804: Masters Thesis or Project | 3 |
| Electives* | 6 |
| Total | 9 |

Spring 2

| Course | Cr Hrs |
|--|-----------|
| BIOE 800 or 804: Masters Thesis or Project | 3 |
| Electives* | 6 |
| Total | 9 |
| TOTAL FOR THE DEGREE | 38 |

***Electives may be chosen from the following list:**

| |
|--|
| BIOE 810: Independent Study |
| BIOE 814: Health Behavior Theory and Intervention Design |
| BIOE 815: Introduction to Public Health and Preventive Medicine |
| BIOE 816: Epidemiological and Clinical Methods in Bone Assessment |
| BIOE 817: Epidemiology of Aging |
| BIOE 818: Mixed Linear Models in Epidemiology |
| BIOE 819: Master's Seminar: Survival and Self-Reliance in the Computer Age |
| BIOE 820: Master's Seminar on Clinical Research in Special Populations |
| BIOE 823: Randomized Clinical Trials |
| BIOE 824: Genetic Epidemiology: Methods and Applications |
| BIOE 825: Bioinformatics for Epidemiologists |
| BIOE 826: Women's Health Seminar |
| BIOE 827: Introduction to Patient-Oriented Research |
| BIOE 831: Measurement in Epidemiology |
| BIOE 834: Epidemiology of Childhood Diseases |
| BIOE 840: Special Topics |
| BIOE 851: Health Services Research |
| BIOE 861: Pharmacoepidemiology |
| BIOE 862: Advanced Categorical Data Analysis Techniques for Epidemiology |
| IP 801: Integrity in the Conduct of Scientific Research |
| HOPR 810: Fundamentals of Health Care Systems and Policy |
| |
| Offered at the University of Memphis: |
| ANTH 7521: Biocultural Epidemiology |
| ENGL 7808: Workshop on Scientific and Technical Writing |
| GEOG 6502: Computer Mapping |
| HADM 7107: Health Care Ethics HADM 7115: Public Health Systems |
| HADM 7206: Managerial Epidemiology |
| HPRO 7182: Health Promotion |
| PSYC 7307: Models of Program Evaluation |
| SOCI 7851: Medical Sociology |

Promotion and Graduation

Students must maintain a 3.0 grade point average or greater throughout the program.

Admission to Candidacy

The student must apply for degree candidacy no later than the end of the second month in the term in which the thesis or project is to be presented to the college. Application may be made only after the student successfully completes the prerequisite courses and 18 semester credit hours of graduate course work. Admission to candidacy for the master's degree requires (1) certification by the student's Faculty Committee and the Program Chair that the student has successfully completed sufficient graduate courses and has demonstrated an ability to do graduate work of satisfactory character and (2) approval by the Dean of the student's proposed program. The Dean will inform the Program Director of admission to candidacy. Upon admission to candidacy, all master's students must be enrolled full-time, unless an exception is approved by the Dean.

Research, Electronic Thesis and Oral Defense

Requirements for the master's degree include the successful completion of a suitable research problem, the student's demonstration of scholarly attainment, and the potential to do independent research. This phase of the master's program takes the form of a major research project reported in the form of a thesis or project. The subject of the research shall be determined by the student in consultation with Faculty Committee members and the Program Chair. The scientific content and style of the thesis are the responsibility of the student and student's Faculty Committee. The thesis must be formatted and delivered according to the electronic thesis and dissertation policies outlined in these bylaws under "ET/D Program Policies".

The final oral defense of the research shall be publicized to the University community and shall be conducted by the student's Faculty Committee. When the defense is successfully completed, a Report of Final Examination is signed by all Faculty Committee members and forwarded to the Dean of the CGHS.

MASTER OF SCIENCE IN HEALTH OUTCOMES AND POLICY RESEARCH with a concentration in Health Systems Pharmacy Management

Program Description

The M.S. program in Health Outcomes and Policy Research with a concentration in health systems pharmacy management is combined with a 2-year residency and is designed to develop the knowledge, skills, and leadership abilities necessary to provide and evaluate a comprehensive pharmacy benefit and service for patients of organized health care settings. The concentration emphasizes health systems pharmacy management. It also includes the following practice management areas: medication systems management, human resources management, fiscal management, and technology assessment. Medication systems management focuses on the study of drug resources, safe/effective drug use systems, drug information and therapy management, and pharmacy data management. An additional focus is the medication use process in the health care system and in society to reflect interactions and services among providers of care, payers of care, and recipients of care.

Admission and Selection

Admission is limited to residents in a pharmacy practice management program offered by a university-affiliated health care facility or organization. Admission as a full-time student requires a terminal degree in the applicant's specialty with a grade point average of at least 3.0 from an accredited college or university and a combined score totaling at least 300 for the verbal and quantitative sections of the revised Graduate Record Examinations (GRE). Individuals with a professional or graduate degree in science from an accredited US/Canadian institution, or with scores from other commonly recognized standardized graduate admissions exams, may petition for an exception. Two letters of recommendation from previous instructors or persons capable of judging the applicant's qualifications for graduate study are also required. Any applicant to the graduate program whose first language is not English and who has earned neither a bachelor's nor a master's degree from a college or university in an English-speaking country must have achieved a TOEFL score of at least 213/79 on the computer-based/Internet-based exam or an IELTS score of 6.5 (earned within 2 years prior to application). Any applicant whose first language is not English but who has earned a baccalaureate or advanced degree from a college or university in an English-speaking country where instruction was in English may be exempted from the requirement for the TOEFL or IELTS examination.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Curriculum Summary and (Typical) Sequence

In addition to required and elective didactic coursework, completion of a Master's thesis describing a research investigation is required. The residency in pharmacy practice management is a concurrent 2-year residency offered by a university-affiliated health care facility or organization.

Fall 1

| Course | Cr Hrs |
|--|-----------|
| HOPR 801: Research in Health Outcomes and Policy Research | 3 |
| HOPR 829: Data Analysis Methods in Health Science Administration | 3 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| HADM 7108: Health Administration | 3 |
| <i>Total</i> | <i>10</i> |

Spring 1

| Course | Cr Hrs |
|--|-----------|
| HOPR 879: Pharmacoeconomics I | 3 |
| HOPR 880: Health Systems Pharmacy Management I | 3 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| HADM 7109: Healthcare Finance | 3 |
| HOPR 800: Thesis Research | 1 |
| <i>Total</i> | <i>12</i> |

Fall 2

| Course | Cr Hrs |
|--|-----------|
| HOPR 810: Fundamentals of Health Care Systems & Policy | 3 |
| HOPR 840: Special Topics, Medication Safety | 2 |
| HOPR 877: Health Economics | 3 |
| HOPR 890: Health Systems Pharmacy Management II | 3 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| HOPR 800: Thesis Research | 2 |
| <i>Total</i> | <i>14</i> |

Spring 2

| Course | Cr Hrs |
|--|------------------|
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| POLS 8605: Healthcare Finance | 3 |
| HOPR 800: Thesis Research | 6 |
| <i>Total</i> | <i>10</i> |
| <i>TOTAL FOR THE DEGREE</i> | <i>46</i> |

Promotion and Graduation

Students must maintain a 3.0 grade point average or greater throughout the program.

Admission to Candidacy

The student must apply for degree candidacy no later than the end of the second month in the term in which the thesis is to be presented to the college. Application may be made only after the student successfully completes the prerequisite courses and 18 semester credit hours of graduate course work.

Admission to candidacy for the master's degree requires (1) certification by the student's Faculty Committee and the Program Chair that the student has successfully completed sufficient graduate courses and has demonstrated an ability to do graduate work of satisfactory character and (2) approval by the Dean of the student's proposed program. The Dean will inform the Program Director of admission to candidacy. Upon admission to candidacy, all master's students must be enrolled full-time, unless an exception is approved by the Dean.

Research, Electronic Thesis and Oral Defense

Requirements for the master's degree include the successful completion of a suitable research problem, the student's demonstration of scholarly attainment, and the potential to do independent research. This phase of the master's program takes the form of a major research project reported in the form of a thesis or project. The subject of the research shall be determined by the student in consultation with Faculty Committee members and the Program Chair. The scientific content and style of the thesis are the responsibility of the student and student's Faculty Committee. The thesis must be formatted and delivered according to the electronic thesis and dissertation policies outlined in these bylaws under "ET/D Program Policies".

The final oral defense of the research shall be publicized to the University community and shall be conducted by the student's Faculty Committee. When the defense is successfully completed, a Report of Final Examination is signed by all Faculty Committee members and forwarded to the Dean of the CGHS.

MASTER OF SCIENCE IN PHARMACOLOGY

Program Description

The College offers an 11-month, 34-credit, accelerated program leading to the award of a Masters in Pharmacology degree. The program is designed to provide the student with a comprehensive background in medical pharmacology, basic biochemistry and the physiologic and pathophysiologic basis for drug therapy. Successful completion of this program will fully prepare a candidate for additional medical or basic research training.

Admission and Selection

General requirements are a bachelor's degree with a grade-point average of at least 3.0 from an accredited college or university. Students may submit competitive MCAT scores or a Graduate Record Examination combined score (verbal and quantitative) of at least 300 for the revised exam. For students whose native language is not English, a score of at least 213/79 on the computer-based/Internet-based TOEFL or evidence of proficiency in English. In addition, three letters of recommendation should be provided.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Upon admission, students are invited to disclose any disabilities (with certification) to the Student Academic Support Services (SASS). The college will provide reasonable accommodations, as required by the student's documented disabilities with SASS, and at the student's written request to the Dean, College of Graduate Health Sciences. In summary, the mission of the college is to prepare students for the practice of biomedical research and teaching. The College of Graduate Health Sciences, in accord with Section 504 of the 1973 Vocational Rehabilitation Act and the Americans with Disabilities Act (ADA) (Public Law 101-336), has established the aforementioned essential functions of graduate students. The college will consider for admission applicants who demonstrate the ability to perform or to learn to perform the essential skills required for a career in biomedical research. Students will be judged primarily on their scholastic accomplishments in demanding academic courses as well as the ability to perform research and prepare a thesis or doctoral dissertation of high quality. Candidates will also be judged on physical and emotional capacities for a career in biomedical research.

Curriculum Summary and (Typical) Sequence

Fall

| Course | Cr Hrs |
|---|-----------|
| PHAR 610: Medical Pharmacology | 4 |
| PHAR 801: Foundations of Pharmacology | 4 |
| PHAR 802: Current Topics in Clinical Pharmacology | 2 |
| PHAR 803: Pharmacology Research Techniques | 1 |
| PHAR 819: Pharmacology Research Seminar | 2 |
| IP 806: Biochemistry | 3 |
| Total | 15 |

Spring

| Course | Cr Hrs |
|---|-----------|
| PHAR 610: Medical Pharmacology | 4 |
| PHAR 801: Foundations of Pharmacology | 2 |
| PHAR 802: Current Topics in Clinical Pharmacology | 2 |
| PHAR 819: Pharmacology Research Seminar | 2 |
| PHAR 840: Pharmacology Special Topics | 2 |
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| PHAR 800: Thesis Research | 5 |
| Total | 19 |
| TOTAL FOR DEGREE | 34 |

Promotion and Graduation

Students must maintain a 3.0 grade point average or greater throughout the program.

Admission to Candidacy

The student must apply for degree candidacy no later than the end of the second month in the term in which the thesis or project is to be presented to the college. Application may be made only after the student successfully completes the prerequisite courses given in the first term.

Admission to candidacy for the master's degree requires (1) certification by the student's Faculty Committee and the Program Chair that the student has successfully completed sufficient graduate courses and has demonstrated an ability to do graduate work of satisfactory character and (2) approval by the Dean of the student's proposed program. The Dean will inform the Program Director of admission to candidacy. Upon admission to candidacy, all master's students must be enrolled full-time and complete the degree requirements within term, unless an exception is approved by the Dean.

Research and Oral Defense

Requirements for the master's degree include the successful completion of a suitable research problem, the student's demonstration of scholarly attainment, and the potential to do independent research. This phase of the master's program takes the form of a major research project reported in the form of a scholarly analysis. The subject of the research shall be determined by the student in consultation with Faculty Committee members and the Program Chair. The scientific content and style of the analysis are the responsibility of the student and student's Faculty Committee.

The final oral defense of the research shall be conducted by the student's Faculty Committee. When the defense is successfully completed, a Report of Final Examination is signed by all Faculty Committee members and forwarded to the Dean of the CGHS.

DOCTOR OF PHILOSOPHY – BIOMEDICAL ENGINEERING (Joint Degree with University of Memphis)

Program Description

The UTHSC College of Graduate Health Sciences together with the Department of Biomedical Engineering at The University of Memphis offers a joint graduate program leading to the Ph.D. in Biomedical Engineering (BME). As a special field, BME applies engineering, physical sciences, and mathematical methods to problems involving health care; it demands close integration of many areas and forms of knowledge including the areas listed above, the life and health sciences, and current practice in clinical care.

The program's primary faculty are divided equally between the two campuses and offer academic and research activities in four major sub-disciplines of biomechanics, biomaterials and regenerative technology, biosensors and electrophysiology, and bioimaging: (1) Biomechanics and rehabilitation engineering, including orthopedic implants, prosthetic devices and design engineering; (2) Cell and tissue engineering, focusing on the cardiovascular system and including artificial organs, biomaterials, and hemodynamics; (3) Electrophysiology, including measurement methods, modeling and computation, and signal analysis; and, (4) Imaging, including novel medical image-acquisition devices, computational image processing, and quantitative analysis techniques. These sub-disciplines are bolstered by collaborations with secondary and adjunct faculty at the two universities and other affiliated institutions.

Admission and Selection

Admission as a full-time student requires a bachelor's degree or its equivalent with an undergraduate grade point average of at least 3.0 from an accredited college or university and a combined score totaling at least 300 for the verbal and quantitative sections of the revised Graduate Record Examinations (GRE). Individuals with a professional or graduate degree in science from an accredited US/Canadian institution, or with scores from other commonly recognized standardized graduate admissions exams, may petition for an exception. Three letters of recommendation from previous instructors or persons capable of judging the applicant's qualifications for graduate study are also required. Any applicant to the graduate program whose first language is not English and who has earned neither a bachelor's nor a master's degree from a college or university in an English-speaking country must have achieved a TOEFL score of at least 213/79 on the computer-based/Internet-based exam or an IELTS score of 6.5 (earned within 2 years prior to application). Any applicant to the CGHS whose first language is not English but who has earned a baccalaureate or master's degree from a college or university in an English-speaking country where instruction was in English may be exempted from the requirement for the TOEFL or IELTS examination.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Curriculum Summary

Fall 1

| Course | Cr Hrs |
|---|-----------|
| BIOM 801: Biomedical Engineering Analysis I | 3 |
| BIOM 811: Life Sciences for BME I | 3 |
| BIOM 815: Biomedical Measurements and Instrumentation | 3 |
| BIOM 803-001: Professional Development | 3 |
| Total | 12 |

Spring 1

| Course | Cr Hrs |
|--|-----------|
| BIOM 821: Life Sciences for BME II | 3 |
| Math Elective | 3 |
| Engineering Elective | 3 |
| BIOM 803-002: Professional Development | 3 |
| Total | 12 |

Fall 2

| Course | Cr Hrs |
|--|-----------|
| Elective (measurement or control theory) | 3 |
| Engineering Elective | 3 |
| BIOM 800: Thesis Research | 3 |
| BIOM 803-002: Professional Development | 3 |
| Total | 12 |

Spring 2

| Course | Cr Hrs |
|---------------------------------|-----------|
| Life Sciences Elective | 3 |
| Engineering Elective* | 3 |
| Math Elective | 3 |
| BIOM 900: Dissertation Research | 3 |
| Total | 12 |

Fall 3

| Course | Cr Hrs |
|---------------------------------|-----------|
| Life Sciences Elective | 3 |
| Engineering Elective | 3 |
| Math Elective | 3 |
| BIOM 900: Dissertation Research | 3 |
| Total | 12 |

Spring 3

| Course | Cr Hrs |
|---------------------------------|-----------|
| Engineering Elective | 3 |
| Engineering Elective* | 3 |
| Math Elective | 3 |
| BIOM 900: Dissertation Research | 3 |
| Total | 12 |

Fall 4

| Course | Cr Hrs |
|---------------------------------|---------------|
| Engineering Elective | 3 |
| Engineering Elective | 3 |
| BIOM 900: Dissertation Research | 3 |
| Total | 9 |

Spring 4

| Course | Cr Hrs |
|---------------------------------|---------------|
| Engineering Elective | 3 |
| BIOM 900: Dissertation Research | 6 |
| Total | 9 |

Fall 5

| Course | Cr Hrs |
|---------------------------------|---------------|
| BIOM 900: Dissertation Research | 6* |
| Total | 6 |
| TOTAL FOR THE DEGREE | 96* |

*Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Graduation Requirements

Students must maintain a 3.0 grade point average or greater throughout the program.

Examination Requirement

Prior to admission to candidacy, students pursuing the project option must pass a comprehensive written examination (Level A exam). This examination is given in the third term of the student's curriculum and has four sections covering the topics of life sciences, mathematics, instrumentation, and biomedical engineering. A student must pass all of the four sections of the exam. In addition, student are given an oral examination in which they present their current or proposed research project and answer questions about the project and their written examination. Students are allowed two attempts to pass the examination.

Admission to Candidacy

The student must apply for degree candidacy no later than two terms prior to the term in which the dissertation is presented. A comprehensive examination (oral and written) covering the fields indicated by the program must be passed prior to admission to candidacy. In the event of failure, the candidate may not appear for reexamination until permission is granted by the program. The result of the second examination is final.

Admission to candidacy for this degree depends upon the student's (1) passing the required comprehensive examination, (2) demonstration of research potential and accomplishment at least equivalent to that for completion of a master's thesis, (3) certification by the student's Faculty Committee and the Program Chair, and (4) approval by the Dean. Upon admission to candidacy, all graduate students, including those who have been enrolled part-time, must be enrolled full-time for the remainder of their program, unless an exception is approved by the Dean.

Research, Electronic Dissertation, and Oral Defense

Research accomplishment is a principal requirement for the degree of Doctor of Philosophy, and the dissertation must show substantial evidence of independently achieved and original results. This research and preparation of the dissertation must in each case be conducted in accordance with general College policies and under the immediate direction of the student's Research Advisor and Faculty Committee. The dissertation is written after completion of experiments or other graduate studies designed to answer the questions posed by the statement of the problem. The scientific content and style of the dissertation are the responsibility of the student and student's Faculty Committee. The dissertation must be formatted and delivered according to the electronic thesis and dissertation policies outlined in these bylaws under "ET/D Program Policies".

The final oral defense of the research shall be publicized to the University community and shall be conducted by the student's Faculty Committee. When the defense is successfully completed, a Report of Final Examination is signed by all Faculty Committee members and forwarded to the Dean of the CGHS.

DOCTOR OF PHILOSOPHY IN BIOMEDICAL SCIENCES

Program Description

The Ph.D. in Biomedical Sciences is an integrated, interdisciplinary, research-oriented graduate program in which students train in UTHSC faculty laboratories. There are five research concentrations, or tracks: cancer and developmental biology, cell biology and physiology, microbiology-immunology-biochemistry, molecular and systems pharmacology, and neuroscience. Students who wish to train in any one of the five research tracks should apply to the program, and will then have the option of considering multiple tracks or directly entering a specific track.

Admission and Selection

Applications for the Ph.D. in Biomedical Sciences are normally accepted from students with a biological or physical science related bachelor's or advanced degree from an accredited college or university; degrees in other fields of study are acceptable with appropriate preparation. The normal admission time for new students is in the fall term, which begins about mid-August. Most students apply before December, and those applying before January 15 will be given priority status. The final application deadline is March 1. Applications are reviewed as received. The admission requirements are:

- A minimum grade point average of 3.0
- A minimum revised Graduate Record Examination (GRE) combined verbal and quantitative score of 300.
- Any applicant to the graduate program whose first language is not English and who has earned neither a bachelor's nor a master's degree from a college or university in an English-speaking country must have achieved a TOEFL score of at least 213/79 on the computer-based/Internet-based exam or an IELTS score of 6.5 (earned within 2 years prior to application). Any applicant whose first language is not English but who has earned a baccalaureate or advanced degree from a college or university in an English-speaking country where instruction was in English may be exempted from the requirement for the TOEFL or IELTS examination.
- Three letters of recommendation.
- Transcripts from any non-US institution must be verified and certified to generate a grade point average (GPA) based on a 4.0 scale. Verification must be completed before March 1.

Track (concentration) admission committees recommend their selections to the Program Director. Offers of admission are made by the Program Director with approval by the Dean of the College of Graduate Health Sciences.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Curriculum Summary and (Typical) Sequence by Concentration

In addition to required and elective didactic coursework, completion of a doctoral dissertation describing a research investigation is required.

Concentration in Cancer and Developmental Biology:

Fall 1

| Course | Cr Hrs |
|------------------------------------|--------|
| IP 806: Biochemistry | 3 |
| IP 810: IPBS Seminars | 1 |
| IP 841: Essentials of Cell Biology | 3 |
| IP 900: Dissertation Research | 1 |
| PATH 834: Pathology Seminars | 1 |
| <i>Total</i> | 9 |

Spring 1

| Course | Cr Hrs |
|---|--------|
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| IP 805: Essentials of Molecular Biology | 3 |
| IP 900: Dissertation Research | 1 |
| MSCI 861: Cellular Signaling | 3 |
| PATH 840: Special Topics | 1 |
| <i>Total</i> | 9 |

Fall 2

| Course | Cr Hrs |
|-------------------------------------|--------|
| BIOE 845: Biostatistics | 2 |
| IP 900: Dissertation Research | 2 |
| IP 940: Molecular Biology of Cancer | 4 |
| PATH 840: Special Topics | 1 |
| Elective | 2-3 |
| <i>Total</i> | 11-12 |

Spring 2

| Course | Cr Hrs |
|-------------------------------|--------|
| IP 900: Dissertation Research | 6 |
| Elective | 3 |
| <i>Total</i> | 9 |

Fall 3

| Course | Cr Hrs |
|-------------------------------|--------|
| IP 900: Dissertation Research | 8 |
| Seminar and Elective | 1-3 |
| <i>Total</i> | 9-11 |

Spring 3*

| Course | Cr Hrs |
|-------------------------------|---------------|
| IP 900: Dissertation Research | 8 |
| Seminar and Elective | 1-3 |
| <i>Total</i> | <i>9-11</i> |
| TOTAL FOR THE DEGREE | 56-61† |

*Repeats until degree requirements are met

†Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Concentration in Cell Biology and Physiology:**Fall 1**

| Course | Cr Hrs |
|------------------------------------|---------------|
| IP 806: Biochemistry | 3 |
| IP 810: IPBS Seminars | 1 |
| IP 841: Essentials of Cell Biology | 3 |
| IP 900: Dissertation Research | 1 |
| PHYS 919: Physiology Seminar | 1 |
| <i>Total</i> | <i>9</i> |

Spring 1

| Course | Cr Hrs |
|---|---------------|
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| IP 805: Essentials of Molecular Biology | 3 |
| IP 900: Dissertation Research | 1 |
| PHYS 612: Medical Physiology | 5 |
| PHYS 919: Physiology Seminar | 1 |
| <i>Total</i> | <i>11</i> |

Fall 2

| Course | Cr Hrs |
|-------------------------------|---------------|
| BIOE 845: Biostatistics | 2 |
| IP 900: Dissertation Research | 9 |
| PHYS 919: Physiology Seminar | 1 |
| <i>Total</i> | <i>12</i> |

Spring 2

| Course | Cr Hrs |
|-------------------------------|---------------|
| IP 900: Dissertation Research | 9 |
| PHYS 919: Physiology Seminar | 1 |
| <i>Total</i> | <i>10</i> |

Fall 3

| Course | Cr Hrs |
|-------------------------------|---------------|
| IP 900: Dissertation Research | 9 |
| PHYS 919: Physiology Seminar | 1 |
| <i>Total</i> | <i>10</i> |

Spring 3*

| Course | Cr Hrs |
|-------------------------------|--------|
| IP 900: Dissertation Research | 9 |
| PHYS 919: Physiology Seminar | 1 |
| <i>Total</i> | 10 |
| TOTAL FOR THE DEGREE | 62† |

*Repeats until degree requirements are met

†Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Concentration in Microbiology, Immunology, and Biochemistry:**Fall 1**

| Course | Cr Hrs |
|------------------------------------|--------|
| IP 806: Biochemistry | 3 |
| IP 810: IPBS Seminars | 1 |
| IP 841: Essentials of Cell Biology | 3 |
| IP 900: Dissertation Research | 1 |
| PHYS 919: Physiology Seminar | 1 |
| <i>Total</i> | 9 |

Spring 1

| Course | Cr Hrs |
|---|--------|
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| IP 805: Essentials of Molecular Biology | 3 |
| IP 900: Dissertation Research | 3 |
| MSCI 931: Immunity and Inflammation | 2 |
| <i>Total</i> | 9 |

Fall 2

| Course | Cr Hrs |
|-------------------------------|--------|
| BIOE 845: Biostatistics | 2 |
| IP 900: Dissertation Research | 4 |
| Elective | 3 |
| <i>Total</i> | 9 |

Spring 2

| Course | Cr Hrs |
|-------------------------------|--------|
| IP 900: Dissertation Research | 6 |
| Elective | 3 |
| <i>Total</i> | 9 |

Fall 3

| Course | Cr Hrs |
|-------------------------------|--------|
| IP 900: Dissertation Research | 9 |
| <i>Total</i> | 9 |

Spring 3*

| Course | Cr Hrs |
|-------------------------------|--------|
| IP 900: Dissertation Research | 9 |
| <i>Total</i> | 9 |
| TOTAL FOR THE DEGREE | 54† |

*Repeats until degree requirements are met

†Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Concentration in Molecular and Systems Pharmacology:**Fall 1**

| Course | Cr Hrs |
|-------------------------------|---------------|
| IP 806: Biochemistry | 3 |
| IP 810: IPBS Seminars | 1 |
| IP 900: Dissertation Research | 4 |
| Elective | 1 |
| <i>Total</i> | 9 |

Spring 1

| Course | Cr Hrs |
|---|---------------|
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| IP 805: Essentials of Molecular Biology | 3 |
| IP 900: Dissertation Research | 2 |
| Elective | 3 |
| <i>Total</i> | 9 |

Fall 2

| Course | Cr Hrs |
|-------------------------------|---------------|
| BIOE 845: Biostatistics | 2 |
| IP 900: Dissertation Research | 4 |
| Elective | 3 |
| <i>Total</i> | 9 |

Spring 2

| Course | Cr Hrs |
|-------------------------------|---------------|
| IP 900: Dissertation Research | 6 |
| Elective | 3 |
| <i>Total</i> | 9 |

Fall 3

| Course | Cr Hrs |
|-------------------------------|---------------|
| IP 900: Dissertation Research | 9 |
| <i>Total</i> | 9 |

Spring 3*

| Course | Cr Hrs |
|-------------------------------|---------------|
| IP 900: Dissertation Research | 9 |
| <i>Total</i> | 9 |
| TOTAL FOR THE DEGREE | 54† |

*Repeats until degree requirements are met

†Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Concentration in Neuroscience:**Fall 1**

| Course | Cr Hrs |
|-----------------------------------|---------------|
| ANAT 821: Neuroscience Seminar | 1 |
| ANAT 827: Functional Neuroanatomy | 3 |
| ANAT 840: Special Topics | 1 |
| IP 806: Biochemistry | 3 |
| IP 810: IPBS Seminars | 1 |
| ANAT 900: Dissertation Research | 1 |
| <i>Total</i> | <i>10</i> |

Spring 1

| Course | Cr Hrs |
|---|---------------|
| ANAT 821: Neuroscience Seminar | 1 |
| ANAT 825: Developmental and Molecular Neurobiology | 3 |
| ANAT 826: Neuroscience Student Symposia | 1 |
| ANAT 840: Special Topics | 1 |
| ANAT 900: Dissertation Research | 2 |
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| <i>Total</i> | <i>9</i> |

Fall 2

| Course | Cr Hrs |
|--|---------------|
| ANAT 821: Neuroscience Seminar | 1 |
| ANAT 823 or ANAT 841: Cellular/Behavioral Neuroscience | 3 |
| ANAT 840: Special Topics | 1 |
| BIOE 845: Biostatistics | 2 |
| IP 900: Dissertation Research | 2 |
| <i>Total</i> | <i>9</i> |

Spring 2

| Course | Cr Hrs |
|---|---------------|
| ANAT 821: Neuroscience Seminar | 1 |
| ANAT 826: Neuroscience Student Symposia | 1 |
| ANAT 840: Special Topics | 1 |
| IP 900: Dissertation Research | 6 |
| <i>Total</i> | <i>9</i> |

Fall 3

| Course | Cr Hrs |
|--------------------------------|---------------|
| ANAT 821: Neuroscience Seminar | 1 |
| IP 900: Dissertation Research | 5 |
| Elective | 3 |
| <i>Total</i> | <i>9</i> |

Spring 3*

| Course | Cr Hrs |
|---|---------------|
| ANAT 821: Neuroscience Seminar | 1 |
| ANAT 826: Neuroscience Student Symposia | 1 |
| IP 900: Dissertation Research | 4 |
| Elective | 3 |
| <i>Total</i> | 9 |
| TOTAL FOR THE DEGREE | 54† |

*Repeats until degree requirements are met. ANAT 826 repeats only every Spring term; electives are as needed.

†Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Promotion and Graduation

Students must maintain a 3.0 grade point average or greater throughout the program.

Non-Completion of Degree

A student who has satisfactorily completed a minimum of 30 credit hours may choose not to finish the additional coursework and research required for a Ph.D. and instead choose to graduate with an M.S. degree. This option requires notification of the College with a request for admission to M.S. degree candidacy no later than the second month of the term in which the student intends to graduate. Completion of the M.S. degree requires full-time registration and an oral and written analysis of the work completed.

Admission to Candidacy

The student must apply for Ph.D. degree candidacy no later than two terms prior to the term in which the dissertation is presented. A comprehensive examination (oral and written) covering the fields indicated by the program must be passed prior to admission to candidacy. In the event of failure, the candidate may not appear for reexamination until permission is granted by the program. The result of the second examination is final.

Admission to candidacy for this degree depends upon the student's (1) passing the required comprehensive examination, (2) demonstration of research potential and accomplishment at least equivalent to that for completion of a master's thesis, (3) certification by the student's Faculty Committee and the Program Chair, and (4) approval by the Dean. Upon admission to candidacy, all graduate students, including those who have been enrolled part-time, must be enrolled full-time for the remainder of their program, unless an exception is approved by the Dean.

Research, Electronic Dissertation, and Oral Defense

Research accomplishment is a principal requirement for the degree of Doctor of Philosophy, and the dissertation must show substantial evidence of independently achieved and original results. This research and preparation of the dissertation must in each case be conducted in accordance with general College policies and under the immediate direction of the student's Research Advisor and Faculty Committee. The dissertation is written after completion of experiments or other graduate studies designed to answer the questions posed by the statement of the problem. The scientific content and style of the dissertation are the responsibility of the student and student's Faculty Committee. The dissertation must be formatted and delivered according to the electronic thesis and dissertation policies outlined in these bylaws under "ET/D Program Policies".

MASTER OF SCIENCE IN BIOMEDICAL SCIENCES (Transition from PhD)

Program Description

Graduate study leading to the Master of Science in Biomedical Sciences for all concentrations other than Laboratory Research and Management is only available to students accepted to and enrolled in the PhD in Biomedical Sciences program. A student who has satisfactorily completed a minimum of 30 credit hours may choose not to finish the additional coursework and research required for a PhD and instead choose to graduate with an MS degree. This option requires approval by the mentor, faculty committee, and track director. Notification of the College with a request for admission to M.S. degree candidacy must occur no later than the second month of the term in which the student intends to graduate. Completion of the M.S. degree requires full-time registration and both an oral and written analysis of the work completed.

DOCTOR OF PHILOSOPHY IN HEALTH OUTCOMES AND POLICY RESEARCH

Program Description

The Ph.D. program in Health Outcomes and Policy Research offers concentrations in pharmacoeconomics and health policy. The concentration in pharmacoeconomics is designed to develop the knowledge and skills necessary to evaluate the economic, clinical and humanistic outcomes of medical treatment. The concentration in health policy is designed to provide a comprehensive understanding of health policy development, implementation and analysis. The program focuses on producing graduates for positions that emphasize research rather than administration.

Admission and Selection

Applications for the Ph.D. program in Health Outcomes and Policy Research are accepted from students with a health profession or health care related degree. The normal admission time for new students is in the Fall term, which begins about mid-August. Prospective graduate students should submit a completed application form and supporting documents by March 15th for the Fall term. The admission requirements are:

- A minimum grade point average of 3.0
- A minimum revised Graduate Record Examination (GRE) combined verbal and quantitative score of 300 and 4.0 on the analytical portion.
- Any applicant to the graduate program whose first language is not English and who has earned neither a bachelor's nor a master's degree from a college or university in an English-speaking country must have achieved a TOEFL score of at least 213/79 on the computer-based/Internet-based exam or an IELTS score of 6.5 (earned within 2 years prior to application). Any applicant whose first language is not English but who has earned a baccalaureate or advanced degree from a college or university in an English-speaking country where instruction was in English may be exempted from the requirement for the TOEFL or IELTS examination.
- Three letters of recommendation.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Curriculum Summary and (Typical) Sequence

In addition to required and elective didactic coursework, completion of a doctoral dissertation describing a research investigation is required.

Concentration in Pharmacoeconomics:

Fall 1

| Course | Cr Hrs |
|--|-----------|
| HOPR 801: Research in Health Outcomes and Policy Research | 3 |
| HOPR 829: Data Analysis Methods in Health Science Administration | 3 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| BIOE 812: Fundamentals of Epidemiology | 3 |
| BIOE 813: Fundamentals of SAS for Epidemiology | 3 |
| ECON 7701*: Health Care Economics | 3 |
| <i>Total</i> | <i>16</i> |

Spring 1

| Course | Cr Hrs |
|--|-----------|
| HOPR 879: Pharmacoeconomics I | 3 |
| HOPR 880: Health Systems Pharmacy Management I | 3 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| BIOE 821: Biostatistics for the Health Sciences II | 3 |
| BIOE 822: Advanced Epidemiology | 4 |
| <i>Total</i> | <i>15</i> |

Fall 2

| Course | Cr Hrs |
|--|---------------|
| HOPR 812: Research Techniques in Pharmacoeconomics I | 3 |
| HOPR 816: Applied Pharmacoeconomics I | 2 |
| HOPR 840: Special Topics (choice) | 1-3 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| NSG 913: Qualitative Research Methods | 3 |
| HDAM 7105*: Government Regulated Services | 3 |
| Elective | 3 |
| <i>Total</i> | <i>16-18</i> |

Spring 2

| Course | Cr Hrs |
|---|---------------|
| HOPR 825: Strategies for Health Policy Formulation and Planning | 3 |
| HOPR 827: Applied Pharmacoeconomics II | 2 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| Elective | 3 |
| Elective | 3 |
| <i>Total</i> | <i>12</i> |

Fall 3

| Course | Cr Hrs |
|--|---------------|
| HOPR 900: Dissertation Research | 8 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| Elective | 3 |
| <i>Total</i> | <i>12</i> |

Spring 3

| Course | Cr Hrs |
|--|---------------|
| HOPR 900: Dissertation Research | 8 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| <i>Total</i> | <i>9</i> |

Fall 4

| Course | Cr Hrs |
|--|---------------|
| HOPR 900: Dissertation Research | 8† |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| <i>Total</i> | <i>9</i> |
| TOTAL FOR THE DEGREE | 89-90† |

*Indicates course offered at University of Memphis

†Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Concentration in Health Policy:**Fall 1**

| Course | Cr Hrs |
|--|---------------|
| HOPR 801: Research in Health Outcomes and Policy Research | 3 |
| HOPR 829: Data Analysis Methods in Health Science Administration | 3 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| BIOE 812: Fundamentals of Epidemiology | 3 |
| BIOE 813: Fundamentals of SAS for Epidemiology | 3 |
| ECON 7701: Health Care Economics | 3 |
| <i>Total</i> | <i>16</i> |

Spring 1

| Course | Cr Hrs |
|--|---------------|
| HOPR 878: Advanced Health Economics | 3 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| BIOE 821: Biostatistics for the Health Sciences II | 3 |
| NURS 7001*: Healthcare Policy | 3 |
| Elective | 3-6 |
| <i>Total</i> | <i>14-17</i> |

Fall 2

| Course | Cr Hrs |
|--|---------------|
| HOPR 840: Special Topics (choice) | 1-3 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| NSG 913: Qualitative Research Methods | 3 |
| HDAM 7102*: Health Law/Ethics | 3 |
| HDAM 7105*: Government Regulated Services | 3 |
| Elective | 3 |
| <i>Total</i> | <i>14-16</i> |

Spring 2

| Course | Cr Hrs |
|---|---------------|
| HOPR 825: Strategies for Health Policy Formulation and Planning | 3 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| Elective | 3 |
| Elective | 3 |
| <i>Total</i> | <i>10</i> |

Fall 3

| Course | Cr Hrs |
|--|---------------|
| HOPR 900: Dissertation Research | 8 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| Elective | 3 |
| <i>Total</i> | <i>12</i> |

Spring 3

| Course | Cr Hrs |
|--|----------|
| HOPR 900: Dissertation Research | 8 |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| <i>Total</i> | <i>9</i> |

Fall 4

| Course | Cr Hrs |
|--|--------------|
| HOPR 900: Dissertation Research | 8† |
| HOPR 919: Seminar in Health Outcomes and Policy Research | 1 |
| <i>Total</i> | <i>9†</i> |
| TOTAL FOR THE DEGREE | 84-88 |

*Indicates course at University of Memphis

†Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Promotion and Graduation

Students must maintain a 3.0 grade point average or greater throughout the program.

Non-Completion of Degree

A student who has satisfactorily completed a minimum of 30 credit hours may choose not to finish the additional coursework and research required for a Ph.D. and instead choose to graduate with an M.S. degree. This option requires notification of the College with a request for admission to M.S. degree candidacy no later than the second month of the term in which the student intends to graduate. Completion of the M.S. degree requires full-time registration and an oral and written analysis of the work completed.

Admission to Candidacy

The student must apply for Ph.D. degree candidacy no later than two terms prior to the term in which the dissertation is presented. A comprehensive examination (oral and written) covering the fields indicated by the program must be passed prior to admission to candidacy. In the event of failure, the candidate may not appear for reexamination until permission is granted by the program. The result of the second examination is final.

Admission to candidacy for this degree depends upon the student's (1) passing the required comprehensive examination, (2) demonstration of research potential and accomplishment at least equivalent to that for completion of a master's thesis, (3) certification by the student's Faculty Committee and the Program Chair, and (4) approval by the Dean. Upon admission to candidacy, all graduate students, including those who have been enrolled part-time, must be enrolled full-time for the remainder of their program, unless an exception is approved by the Dean.

Research, Electronic Dissertation, and Oral Defense

Research accomplishment is a principal requirement for the degree of Doctor of Philosophy, and the dissertation must show substantial evidence of independently achieved and original results. This research and preparation of the dissertation must in each case be conducted in accordance with general College policies and under the immediate direction of the student's Research Advisor and Faculty Committee. The dissertation is written after completion of experiments or other graduate studies designed to answer the questions posed by the statement of the problem. The scientific content and style of the dissertation are the responsibility of the student and student's Faculty Committee. The dissertation must be formatted and delivered according to the electronic thesis and dissertation policies outlined in these bylaws under "ET/D Program Policies".

MASTER OF SCIENCE IN HEALTH OUTCOMES AND POLICY RESEARCH (Transition from PhD)

Program Description

Graduate study leading to the Master of Science in Health Outcomes and Policy Research for all concentrations other than Health Systems Pharmacy Management is only available to students accepted to and enrolled in the PhD in Health Outcomes and Policy Research program. A student who has satisfactorily completed a minimum of 30 credit hours may choose not to finish the additional coursework and research required for a PhD and instead choose to graduate with an MS degree. This option requires approval by the mentor, faculty committee, and track director. Notification of the College with a request for admission to M.S. degree candidacy must occur no later than the second month of the term in which the student intends to graduate. Completion of the M.S. degree requires full-time registration and both an oral and written analysis of the work completed.

DOCTOR OF PHILOSOPHY – NURSING SCIENCE

Program Description

The Ph.D. in Nursing Science was designed to educate nurse scientists who will use research-based knowledge, theories, and interventions in their roles as researchers, educators, and administrators. Applicants admitted to the Ph.D. program are admitted to the College of Graduate Health Sciences (CGHS). Although nursing faculty teach most courses included within the program schema, students have the opportunity to learn and network with CGHS students from other disciplines while enrolled in biostatistics, health policy, and the medical ethics courses. Students work closely throughout their program of study with a faculty advisor or mentor with whom they share a common research interest. The two main areas of faculty research focus are bio-behavioral interactions and interventions, and quality and safety. The mission of the Ph.D. Program in Nursing Sciences is to prepare nursing scientists and scholars for collaborative and socially responsible inquiry that improves and promotes health today and for the future. This is achieved through an educational program that emphasizes (1) developing and testing theories and models of nursing care; (2) clinical nursing research; and (3) social, political, legal, and economic implications of health care policies and practices.

Admission and Selection

The matriculation for new students is in the fall term, which begins about mid-August. Most students apply before December in the year prior to matriculation. The final application deadline is February 1. Applications are reviewed as received. The admission requirements are:

- Have earned a minimum of a baccalaureate degree from a regionally accredited college or university. If the baccalaureate degree is in Nursing, it must be from a program accredited by a national level body responsible for nursing accreditation. If the baccalaureate degree is not in nursing, the applicant may be admitted with the requirement of successful completion of prerequisite courses in the College of Nursing prior to enrolling in the MSN courses. Students complete the Ph.D. courses after completion of MSN courses.
- A minimum grade point average of 3.0 on a 4.0 scale in the latest degree-earning academic program.
- A minimum revised Graduate Record Examination (GRE) combined verbal and quantitative score of 300.
- Any applicant to the graduate program whose first language is not English and who has earned neither a bachelor's nor a master's degree from a college or university in an English-speaking country must have achieved a TOEFL score of at least 213/79 on the computer-based/Internet-based exam or an IELTS score of 6.5 (earned within 2 years prior to application). Any applicant whose first language is not English but who has earned a baccalaureate or advanced degree from a college or university in an English-speaking country where instruction was in English may be exempted from the requirement for the TOEFL or IELTS examination.

- Three letters of recommendation.
- Transcripts from any non-US institution must be verified and certified to generate a grade point average (GPA) based on a 4.0 scale. Verification must be completed before February 1.
- Hold or be eligible for an unrestricted RN license in Tennessee.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Curriculum Summary and (Typical) Sequence

In addition to required and elective didactic coursework, completion of a doctoral dissertation describing a research investigation is required.

Fall 1

| Course | Cr Hrs |
|---------------------------------------|-----------|
| BIOE 811: Biostatistics I | 3 |
| NSG 911: Philosophy of Sciences | 3 |
| NSG 913: Qualitative Research Methods | 3 |
| NSG 919: Nursing Science Seminar | 1 |
| Total | 10 |

Spring 1

| Course | Cr Hrs |
|---|-----------|
| BIOE 821: Biostatistics II | 3 |
| NSG 912: Theory Construction and Analysis | 3 |
| NSG 923: Quantitative Research Methods | 3 |
| NSG 919: Nursing Science Seminar | 1 |
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| Total | 11 |

Fall 2

| Course | Cr Hrs |
|----------------------------------|---------------|
| NSG 900: Dissertation Research | 3 |
| NSG 919: Nursing Science Seminar | 1 |
| NSG 933: Research Seminar | 2 |
| NSG 960: Directed Study | 3 |
| Elective | 3 |
| Total | 12 |

Spring 2

| Course | Cr Hrs |
|----------------------------------|---------------|
| NSG 900: Dissertation Research | 3 |
| NSG 919: Nursing Science Seminar | 1 |
| NSG 960: Directed Study | 3 |
| Elective | 3 |
| Total | 10 |

Fall 3

| Course | Cr Hrs |
|----------------------------------|---------------|
| NSG 900: Dissertation Research | 9 |
| NSG 919: Nursing Science Seminar | 1 |
| Total | 10 |

Spring 3*

| Course | Cr Hrs |
|----------------------------------|---------------|
| NSG 900: Dissertation Research | 9 |
| NSG 919: Nursing Science Seminar | 1 |
| Total | 10 |
| TOTAL FOR THE DEGREE | 63† |

*Repeats until degree requirements are met

†Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Promotion and Graduation

Students must maintain a 3.0 grade point average or greater throughout the program.

Admission to Candidacy

The student must apply for Ph.D. degree candidacy no later than two terms prior to the term in which the dissertation is presented. A comprehensive examination (oral and written) covering the fields indicated by the program must be passed prior to admission to candidacy. In the event of failure, the candidate may not appear for reexamination until permission is granted by the program. The result of the second examination is final.

Admission to candidacy for this degree depends upon the student's (1) passing the required comprehensive examination, (2) demonstration of research potential and accomplishment at least equivalent to that for completion of a master's thesis, (3) certification by the student's Faculty Committee and the Program Chair, and (4) approval by the Dean. Upon admission to candidacy, all graduate students, including those who have been enrolled part-time, must be enrolled full-time for the remainder of their program, unless an exception is approved by the Dean.

Research, Electronic Dissertation, and Oral Defense

Research accomplishment is a principal requirement for the degree of Doctor of Philosophy, and the dissertation must show substantial evidence of independently achieved and original results. This research and preparation of the dissertation must in each case be conducted in accordance with general College policies and under the immediate direction of the student's Research Advisor and Faculty Committee. The dissertation is written after completion of experiments or other graduate studies designed to answer the questions posed by the statement of the problem. The scientific content and style of the dissertation are the responsibility of the student and student's Faculty Committee. The dissertation must be formatted and delivered according to the electronic thesis and dissertation policies outlined in these bylaws under "ET/D Program Policies".

DOCTOR OF PHILOSOPHY – PHARMACEUTICAL SCIENCES

Program Description

The Pharmaceutical Sciences program offers Ph.D. degrees in two areas of concentration: medicinal chemistry and pharmaceuticals. Medicinal chemistry research includes design, synthesis, and biological evaluation of new compounds with potential for use in the treatment of diseases like cancer and disorders of the endocrine, cardiovascular, central and peripheral nervous systems, and infectious diseases. Pharmaceuticals research includes the design, development and evaluation of drug delivery systems, injectables, and biotechnology drugs and the study of the disposition and pharmacokinetics of drugs and metabolites in humans, animals, and cells.

Admission and Selection

Applications for the Ph.D. program in Pharmaceutical Sciences are accepted from students with a B.S. or M.S. degree in pharmacy, chemistry, biology, mathematics, engineering, or other appropriate disciplines. The normal admission time for new students is in the Fall term, which begins about mid-August. Prospective graduate students should submit a completed application form and supporting documents by March 15th for the Fall Term. Applications are reviewed as received. The admission requirements are:

- A minimum grade point average of 3.0 on a 4.0 scale
- A minimum revised Graduate Record Examination (GRE) combined verbal and quantitative score of 300 and a 3.5 on the analytical section.
- Any applicant to the graduate program whose first language is not English and who has earned neither a bachelor's nor a master's degree from a college or university in an English-speaking country must have achieved a TOEFL score of at least 213/79 on the computer-based/Internet-based exam or an IELTS score of 6.5 (earned within 2 years prior to application). Any applicant whose first language is not English but who has earned a baccalaureate or advanced degree from a college or university in an English-speaking country where instruction was in English may be exempted from the requirement for the TOEFL or IELTS examination.
- Three letters of recommendation.
- Transcripts from any non-US institution must be verified and certified to generate a grade point average (GPA) based on a 4.0 scale. Verification must be completed before March 1.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Curriculum Summary and (Typical) Sequence

In addition to required and elective didactic coursework, completion of a doctoral dissertation describing a research investigation is required.

Concentration in Medicinal Chemistry:

Fall 1

| Course | Cr Hrs |
|--|-----------|
| MEDC 612: Organic Medicinal Chemistry I | 4 |
| MEDC 813: Research Techniques in Medicinal Chemistry | 3 |
| Elective OR | |
| CHEM 8311*: Advanced Organic Chemistry | 3 |
| Total | 10 |

Spring 1

| Course | Cr Hrs |
|--|-----------|
| MEDC 622: Organic Medicinal Chemistry II | 4 |
| MEDC 812: Advanced Medicinal Chemistry | 3 |
| Elective OR | |
| CHEM 8312*: Synthetic Organic Chemistry | 3 |
| Total | 10 |

Fall 2

| Course | Cr Hrs |
|---------------------------------|-----------|
| IP 806: Biochemistry | 3 |
| MEDC 900: Dissertation Research | 3 |
| MEDC 919: Seminar | 1 |
| Elective | 3 |
| Total | 10 |

Spring 2

| Course | Cr Hrs |
|---|---------------|
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| MEDC 900: Dissertation Research | 3 |
| MEDC 919: Seminar | 1 |
| Elective | 5 |
| Total | 10 |

Fall 3

| Course | Cr Hrs |
|---------------------------------|---------------|
| MEDC 900: Dissertation Research | 9 |
| MEDC 919: Seminar | 1 |
| Total | 10 |

Spring 3†

| Course | Cr Hrs |
|---------------------------------|---------------|
| MEDC 900: Dissertation Research | 9 |
| MEDC 919: Seminar | 1 |
| Total | 10 |
| TOTAL FOR THE DEGREE | 60‡ |

*Indicates course at University of Memphis

†Repeats until degree requirements are met

‡Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Concentration in Pharmaceuticals:**Fall 1**

| Course | Cr Hrs |
|-----------------------------------|---------------|
| IP 806: Biochemistry | 3 |
| Elective | 3 |
| PHAC 826: Pharmaceutical Analysis | 3 |
| Elective | 3 |
| Total | 12 |

Spring 1

| Course | Cr Hrs |
|---|---------------|
| IP 801: Integrity in the Conduct of Scientific Research | 1 |
| MSCI 929: Techniques in Molecular Biology | 4 |
| Elective | 3 |
| PHAC 900: Dissertation Research | 3 |
| Total | 11 |

Fall 2

| Course | Cr Hrs |
|-------------------------------------|---------------|
| PHAC 813: Advanced Pharmacokinetics | 4 |
| PHAC 900: Dissertation Research | 3 |
| PHAC 919: Seminar | 1 |
| Elective | 3 |
| Total | 11 |

Spring 2

| Course | Cr Hrs |
|---------------------------------|---------------|
| PHAC 900: Dissertation Research | 6 |
| PHAC 919: Seminar | 1 |
| Elective | 3 |
| Total | 10 |

Fall 3

| Course | Cr Hrs |
|---------------------------------|---------------|
| PHAC 900: Dissertation Research | 9 |
| PHAC 919: Seminar | 1 |
| Total | 10 |

Spring 3†

| Course | Cr Hrs |
|---------------------------------|---------------|
| PHAC 900: Dissertation Research | 9 |
| PHAC 919: Seminar | 1 |
| Total | 10 |
| TOTAL FOR THE DEGREE | 64‡ |

†Repeats until degree requirements are met

‡Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Promotion and Graduation

Students must maintain a 3.0 grade point average or greater throughout the program.

Non-Completion of Degree

A student who has satisfactorily completed a minimum of 30 credit hours may choose not to finish the additional coursework and research required for a Ph.D. and instead choose to graduate with an M.S. degree (see additional information below).

Admission to Candidacy

The student must apply for Ph.D. degree candidacy no later than two terms prior to the term in which the dissertation is presented. A comprehensive examination (oral and written) covering the fields indicated by the program must be passed prior to admission to candidacy. In the event of failure, the candidate may not appear for reexamination until permission is granted by the program. The result of the second examination is final.

Admission to candidacy for this degree depends upon the student's (1) passing the required comprehensive examination, (2) demonstration of research potential and accomplishment at least equivalent to that for completion of a master's thesis, (3) certification by the student's Faculty Committee and the Program Chair, and (4) approval by the Dean. Upon admission to candidacy, all graduate students, including those who have been enrolled part-time, must be enrolled full-time for the remainder of their program, unless an exception is approved by the Dean.

Research, Electronic Dissertation, and Oral Defense

Research accomplishment is a principal requirement for the degree of Doctor of Philosophy, and the dissertation must show substantial evidence of independently achieved and original results. This research and preparation of the dissertation must in each case be conducted in accordance with general College policies and under the immediate direction of the student's Research Advisor and Faculty Committee. The dissertation is written after completion of experiments or other graduate studies designed to answer the questions posed by the statement of the problem. The scientific content and style of the dissertation are the responsibility of the student and student's Faculty Committee. The dissertation must be formatted and delivered according to the electronic thesis and dissertation policies outlined in these bylaws under "ET/D Program Policies".

MASTER OF SCIENCE IN PHARMACEUTICAL SCIENCES (Transition from PhD)

Program Description

Graduate study leading to the Master of Science in Pharmaceutical Sciences is only available to students accepted to and enrolled in the PhD in Pharmaceutical Sciences program. A student who has satisfactorily completed a minimum of 30 credit hours may choose not to finish the additional coursework and research required for a PhD and instead choose to graduate with an MS degree. This option requires approval by the mentor, faculty committee, and program director. Notification of the College with a request for admission to M.S. degree candidacy must occur no later than the second month of the term in which the student intends to graduate. Completion of the M.S. degree requires full-time registration and both an oral and written analysis of the work completed.

DOCTOR OF PHILOSOPHY IN SPEECH AND HEARING SCIENCE

Program Description

The Ph.D. program seeks to develop individuals for professional careers in a variety of positions including research and college teaching in the concentration areas of speech and language pathology, audiology, speech-language science or hearing science. The degree program is research oriented with primary emphasis on processes involved in normal, or disordered speech, language and hearing. Students will be expected to demonstrate their knowledge in areas related to the concentrated field of study. These areas include:

1. Basic speech, hearing, or language processes;
2. Basic speech, hearing, or language disorders or differences;
3. Related disciplines providing insight into human communication processes;
4. Technical skills in instrumentation and experimental design which enable the student to investigate problems pertaining to speech and hearing processes.

Admission and Selection

The matriculation for new students is in the Fall term, which begins about mid-August. Most students apply before December in the year prior to matriculation. The final application deadline is February 1. Applications are reviewed as received. The admission requirements are:

- Master's degree (or equivalent) – preferably in the field of communication sciences and disorders, although degrees from related fields (e.g., psychology, linguistics, neurosciences, music, etc.) might also be accepted.
- A minimum grade point average of 3.0 on a 4.0 scale.
- A minimum revised Graduate Record Examination (GRE) combined verbal and quantitative score of 300.
- Any applicant to the graduate program whose first language is not English and who has earned neither a bachelor's nor a master's degree from a college or university in an English-speaking country must have achieved a TOEFL score of at least 213/79 on the computer-based/Internet-based exam or an IELTS score of 6.5 (earned within 2 years prior to application). Any applicant whose first language is not English but who has earned a baccalaureate or advanced degree from a college or university in an English-speaking country where instruction was in English may be exempted from the requirement for the TOEFL or IELTS examination.
- Three letters of recommendation.
- Transcripts from any non-US institution must be verified and certified to generate a grade point average (GPA) based on a 4.0 scale. Verification must be completed before February 1.
- Identification of faculty member who agrees to serve as major advisor.

Technical Standards and Accommodations

The minimum abilities for eligibility to participate successfully in educational programs and activities by students enrolled in the College of Graduate Health Sciences are listed below. All persons who wish to enter one of the programs in the College should be aware of the minimum abilities required for success. Admission decisions for the College programs do not take disabilities into consideration; students may disclose their disabilities after admission.

Minimum abilities are as follows:

1. To make proper assessments and ethical judgments regarding research and professional decisions.
2. To communicate effectively with colleagues and professional staff.
3. To acquire necessary information developed through classroom instruction, laboratory experience, independent learning, and consultation.
4. To search and evaluate articles in the scientific literature.
5. To obtain, interpret, and accurately document research data.
6. To complete computer-based assignments and use computers.
7. To understand and carry out safety rules and precautions in the laboratory.
8. To handle emergencies in the laboratory, including fire, exposure to dangerous agents, and explosions.

These abilities may be accomplished through direct student response, use of prosthetic devices, or personal assistance (e.g., readers, signers, and note takers). Purchase of prosthetic devices to aid the student in meeting these requirements is the responsibility of the student. On a case-by-case basis and upon written request of the student, the College may assist in providing attending services.

Curriculum Summary

The program will normally consist of three or more calendar years of graduate study beyond the master's degree with the first year being devoted primarily to formal coursework and the last year to full-time research culminating in the doctoral dissertation.

The total program is a minimum of 60 semester credit hours, including a minimum of:

1. 24 credit hours in ASP 600 "Dissertation Research."*
2. 6 credit hours in a research tool.
3. 1 credit hour in approved research ethics course.
4. 6 credit hours in a cognate area outside the Department of Audiology and Speech Pathology.
5. 24 credit hours of graduate-level coursework within the Department of Audiology and Speech Pathology: :
 - a. a minimum of 6 credit hours must be at the 600-level (doctoral);
 - b. a minimum of 6 credit hours in the topic of major interest;
 - c. a minimum of 6 credit hours in topic(s) of related interest;
 - d. 3 credit hours in ASP 611 "Experimental Design in Speech and Hearing"; and
 - e. 3 credit hours in supervised teaching experience.

*Additional credit hours may be required to maintain full-time status. Continuous registration for dissertation research is required until the degree requirements are met.

Promotion and Graduation

Students must maintain a 3.0 grade point average or greater throughout the program.

Admission to Candidacy

The student must apply for Ph.D. degree candidacy no later than two terms prior to the term in which the dissertation is presented. A comprehensive examination (oral and written) covering the fields indicated by the program must be passed prior to admission to candidacy. In the event of failure, the candidate may not appear for reexamination until permission is granted by the program. The result of the second examination is final.

Admission to candidacy for this degree depends upon the student's (1) passing the required comprehensive examination, (2) demonstration of research potential and accomplishment at least equivalent to that for completion of a master's thesis, (3) certification by the student's Faculty Committee and the Program Chair, and (4) approval by the Dean. Upon admission to candidacy, all graduate students, including those who have been enrolled part-time, must be enrolled full-time for the remainder of their program, unless an exception is approved by the Dean.

Research, Electronic Dissertation, and Oral Defense

Research accomplishment is a principal requirement for the degree of Doctor of Philosophy, and the dissertation must show substantial evidence of independently achieved and original results. This research and preparation of the dissertation must in each case be conducted in accordance with general College policies and under the immediate direction of the student's Research Advisor and Faculty Committee. The dissertation is written after completion of experiments or other graduate studies designed to answer the questions posed by the statement of the problem. The scientific content and style of the dissertation are the responsibility of the student and student's Faculty Committee. The dissertation must be formatted and delivered according to the electronic thesis and dissertation policies outlined in these bylaws under "ET/D Program Policies".

GRADUATE CERTIFICATE IN CLINICAL RESEARCH

Program Description

In addition to the doctoral and master's level degrees summarized above, the College of Graduate Health Sciences offers an online graduate certificate in Clinical Research. This 12-credit hour certificate provides initial clinical research skills and training to healthcare professionals. All coursework is provided online, focusing on fundamentals of clinical investigation, biostatistics, epidemiology, and ethical and legal issues. The program is self-paced, but requires at least two terms for completion due to staggered Spring/Fall course offerings.

Minimum Admission Requirements

This program may be offered to qualified applicants holding baccalaureate, masters' or professional degrees in a variety of disciplines, including physical, biological, and social sciences, as well as the health and medical sciences.

Applicants should meet the following requirements:

- Bachelor's degree with a cumulative grade-point average of at least 3.0 (based on a 4.0 scale) from an accredited college or university;
- Submission of a completed application form for this program (see link below);
- Official academic transcripts from previous colleges or universities attended (applicants who have international transcripts must arrange for an independent educational-equivalency evaluation company to submit an evaluation of their international transcripts to this program at their own expense; the evaluation report should include the grade-point average based on a 4.0 scale);
- Recommendations from two people qualified to affirm the applicant's capabilities for graduate academic work.

In addition, applicants must have sufficient computer literacy, English-language literacy, and technical skills to participate in web-based, graduate-level courses. A command of written and spoken English is essential. If there is cause to doubt the student's proficiency in English, the program may, at its discretion, require additional examinations and/or other evidence of proficiency prior to registration. Applicants must have regular access to a computer with a high-speed Internet connection and with suitable technical support for online interactions. Applicants should be familiar with using standard computer software for word-processing, data-processing, Internet browsing, downloading and uploading Internet material in various formats, maintaining Internet security, e-mail handling, and related functions. Questions about computer compatibility with the UTHSC network may be directed to the UTHSC Computing Services Help Desk).

Prospective students apply to the Certificate in Clinical Research program to be considered for enrollment as nondegree students in the College of Graduate Health Sciences (CGHS). Students are expected to comply with regulations and procedures of the CGHS and UT Health Science Center (UTHSC), including procedures for enrollment and course registration, arrangements for tuition and fees, and other expectations of students as indicated in the UTHSC General Catalog and CenterScope student handbook. Admission to the certificate program is not linked to admission in any other graduate program of the CGHS; if students wish to enroll in another graduate program, they must apply to it separately. Certificate program graduates who later seek admission to the Master of Science program in the department may request that credit from the certificate program apply toward credit in the electives component of the curriculum for the M.S. degree at UTHSC.

Curriculum Summary and Sequence

| Course | Credit Hours |
|---------------|---|
| BIOE 750. | Fundamentals of Clinical Investigation 3 |
| BIOE 720. | Biostatistics for Public Health 3 |
| BIOE 727. | Principles of Epidemiology. 3 |
| BIOE 740. | Ethical and Legal Issues in Clinical Research 3 |

Completion Requirements

A cumulative GPA of 3.0 in the required courses is required for successful completion of the certificate program.

COURSE DESCRIPTIONS (by Department)

Anatomy and Neurobiology

- ANAT 611 Histology** *Credit: 5 (80-0)* A study of human histology and organology, with special emphasis on the oral cavity. *Mode of delivery:* Didactic and lab. *Offered:* (not currently offered).
- ANAT 615 Human Gross Anatomy** *Credit: 7 (112-0)* The gross structure of the human body, studied by means of complete dissection supplemented by lectures. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Permission of instructor *Offered:* (not currently offered).
- ANAT 616 Microscopic Anatomy** *Credit: 3 (48-0)* A Lecture and Labstudy of general histology and organology, with emphasis on human material. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Permission of instructor *Offered:* (not currently offered).
- ANAT 622 Head and Neck Anatomy** *Credit: 3 (48-0)* A Lecture and Labstudy of the gross structures of the head and neck, designed primarily for postdoctoral dental students. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Permission of instructor *Offered:* Spring.
- ANAT 812 Introduction to Neuroscience** *Credit: 5 (80-0)* This required course is designed to introduce new graduate students in the Neuroscience Graduate Program to the field of neuroscience. Lectures, provided by the Faculty of the Neuroscience Institute, provide extensive coverage of the field from cellular and molecular neurobiology to behavioral and cognitive neuroscience. This course provides a comprehensive overview of modern neurobiology and serves as a prerequisite to more advanced graduate courses in neuroscience. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* (not currently offered).
- ANAT 815 Research** *Credit: 1-9 Pass/Fail* Qualified students may undertake specific research projects in the laboratories of Faculty members. *Mode of delivery:* Lab. *Pre-Requisites:* Permission of Program Chair May be repeated up to 18 *Offered:* Fall, Spring.
- ANAT 821 Neuroscience Seminar** *Credit: 1 (16-0)* Graduate students and postdoctoral fellows are exposed to the latest concepts, techniques, and developments in basic and clinical neuroscience. Weekly seminars are presented by participating students, postdoctoral fellows, University of Tennessee Health Science Center Faculty, and prominent outside speakers each year. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Fall, Spring. *Instructor of Record:* Reese Scroggs (Fall); Max Fletcher (Spring).
- ANAT 823 Cellular Neuroscience** *Credit: 3 (48-0)* This course provides the student with an overview of the cellular and molecular processes by which nerve cells communicate. The course covers classical theories and concepts as a basis for appreciation of recent research advances. Lectures by the Faculty will provide core material to guide students in presentation of current research topics in Neurochemistry, Neuropharmacology, and Neurophysiology. Extensive reading of the literature will supplement lectures and presentations. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Spring term of odd numbered years.
- ANAT 824 Techniques in Neuroscience** *Credit: 3 (48-0)* This course will train the student in the use of standard and state-of-the-art research techniques in neuroanatomy, neurophysiology, and neurochemistry. Instruction will be by Faculty actively employing these techniques in their own research and who, in several cases, have contributed to the innovation and improvement of a method. It is intended to provide practical experience in the major techniques of neuroscience. This course is intended to (1) acquaint the student with the theoretical basis of each technique, (2) teach the student the laboratory skills necessary to perform each technique, (3) teach the student how to critically evaluate the results and to be aware of the pitfalls of each technique, and (4) acquaint the student with the possible combinations of any single technique with others in designing experiments. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Permission of instructor *Offered:* Fall (not currently offered).

- ANAT 825 Developmental and Molecular Neurobiology** *Credit: 3 (48-0)* This one-credit hour course will serve as an introduction to developmental neurobiology with special emphasis on the molecular analysis of nervous system development. A brief introduction to molecular analysis will be followed by lectures and student- led discussions of research papers that focus on major epochs/events in the development of the nervous system. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Spring term of even numbered years. *Instructor of Record:* Kristin Hamre (Spring).
- ANAT 826 Neuroscience Student Symposia** *Credit: 1 (16-0)* Students make scientific presentations, and participate in the discussion of presentations by other students. Presentations are to be based on the students' own research or on research closely related to their own interests. The presentations are to be given in the style of a scientific meeting, with time allotted for individual talks and discussion. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Spring. *Instructor of Record:* William E. Armstrong (Spring).
- ANAT 827 Functional Neuroanatomy** *Credit: 3 (48-0)* A lecture and Lab dealing with the structure and function of the mammalian central nervous system. The emphasis of the course is on human neuroanatomy, but comparisons are made with the rodent brain using the rat and mouse as model systems. The first one-third of the course provides a synopsis of core concepts and tools used in contemporary neuroanatomical research. This material focuses on an understanding of the principles underlying neuroanatomical approaches, as well as their advantages and potential pitfalls. The final two-thirds of the course covers the basic organization of the central nervous system, including in-depth consideration of its major sensory, motor, and limbic components. This part of the course includes laboratory study on the gross anatomy of the brain. An introductory course in neuroscience is highly recommended. *Mode of delivery:* Didactic/ Lab. *Pre-Requisites:* Permission of instructor *Offered:* Fall. *Instructor of Record:* Matthew Ennis (Fall).
- ANAT 840 Special Topics** *Credit: 1-5* Directed readings or special course in topics of current interest. *Mode of delivery:* Independent study and/or seminar. May be repeated up to 10 *Offered:* Fall, Spring. *Instructor of Record:* Reese Scroggs (Fall); Max Fletcher (Spring).
- ANAT 841 Behavioral Neuroscience** *Credit: 3 (48-0)* This elective is designed to introduce graduate students to behavioral approaches to the study of neuroscience. This course combines lectures with review of both classic and current literature in order to develop an extensive appreciation of behavioral techniques used to study neuroscience questions. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Fall term of even numbered years. (not currently offered).
- ANAT 900 Doctoral Dissertation and Research** *Credit: 1-9* Research performed under the direction and supervision of the respective student's research advisor, in partial fulfillment of the requirements for the degree of Doctor of Philosophy. *Mode of delivery:* Lab. May be repeated up to 144 *Offered:* Fall, Spring. *Instructor of Record:* Joseph Callaway (Fall); Joseph Callaway (Spring).
- ANAT 915 Research** *Credit: 2-9* Pass/Fail Continuation of Anatomy 815 Research. Qualified students undertake specific research projects in the laboratories of Faculty members. *Mode of delivery:* Lab. *Offered:* Fall, Spring (not currently offered).
- ANAT 927 Special Topics in Neurobiology** *Credit: 1-5* Seminars, lectures, and a laboratory experience in one or more specialized fields in the anatomical sciences, including but not limited to many aspects of neuroscience and cell biology. *Mode of delivery:* Seminar and/or lab. *Pre-Requisites:* Permission of instructor May be repeated up to 20 *Offered:* Fall, Spring. *Instructor of Record:* Joseph Callaway (Spring).

Biomedical Engineering

Courses in the Joint Program in BME listed below follow the calendar for The University of Memphis, including the final examination schedules and all deadline dates. BME graduate students enrolled in courses in other programs or departments at either university must abide by the respective calendars under which such courses are listed.

- BIOM 800 Master's Thesis and Research** *Credit: 1-9* Research performed under the direction and supervision of the respective student's Research Advisor, in partial fulfillment of the requirements for the degree of Master of Science. *Mode of delivery:* Research based. *Offered:* Fall, Spring. *Instructor of Record:* Richard Smith (Fall); Richard Smith (Spring).
- BIOM 801 Biomedical Engineering Analysis I** *Credit: 3 (48-0)* The course includes analytical and numerical solution techniques used in analysis of biomedical engineering problems; introduction to software packages PV-Wave and Math CAD for experience with modern problem-solving methods. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* University of Memphis faculty member (Fall).
- BIOM 802 Biomedical Engineering Analysis II** *Credit: 3 (48-0)* Continuation of 801 BIOM. The course uses advanced techniques for solution of complex problems related to biomedical engineering phenomena; emphasis on use of software packages PV-Wave and Math CAD for analysis of problems arising in biomedical engineering research. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* University of Memphis faculty member (Spring).
- BIOM 803 Section 001 Professional Development** *Credit: 3 (48-0)* This consists of three sections and is required of all students in the Joint BME Graduate Program. Section 1 is Professional Excellence in Engineering and includes computer literacy, professional presentation methods, the scientific method, report writing, problem solving techniques, and other topics. Students make one oral presentation and submit one written report using the techniques given in the course. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* Denis DiAngelo (Fall); Erno Lindner (Spring).
- BIOM 803 Section 002 Professional Development** *Credit: 3 (48-0)* This consists of three sections and is required of all students in the Joint BME Graduate Program. Section 2 requires attendance at weekly research seminars given by nationally prominent speakers. Students must submit 50- to 100-word summaries of each seminar. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* Erno Lindner (Spring).
- BIOM 803 Section 003 Professional Development** *Credit: 3 (48-0)* This consists of three sections and is required of all students in the Joint BME Graduate Program. Section 3 includes professional activities in the student's research track. The format is established by each research track and may include regular review meetings, track-based research seminars, reviews of prominent articles from research journals, and other similar activities. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* Erno Lindner (Spring).
- BIOM 804 Master's Project I** *Credit: 1-3* Independent study in biomedical engineering on a topic selected in conjunction with instructor. Oral and written reports required. Use BIOM 824 if already taken BIOM 804. *Mode of delivery:* Research based. *Offered:* Offered every term. *Instructor of Record:* Richard Smith (Spring).
- BIOM 805 Functional Anatomy I** *Credit: 1 (8-16)* This course will give the necessary background for biomedical engineering student to apply engineering principles to functional anatomy and pathological processes of the axial and appendicular skeleton. The Fall course will focus on hip/pelvis, knee, foot, and ankle anatomy and applied biomechanics. The course will meet once a week alternating with Didactics and cadaveric labs. *Mode of delivery:* Didactic and cadaveric labs. *Offered:* Fall. *Instructor of Record:* William Mihalko (Fall).

- BIOM 806 Engineering Tools for Designing Medical Devices** *Credit: 3 (16-64)* This course focuses on recent advances in medical device design and manufacturing technology, including bridging the gap between data obtained from medical diagnostic imaging, such as CT and MRI scans, and computer aided design and engineering methods (CAD and CAE), using laser scanning and 3D coordinate measurement machines to collect point cloud data for reverse engineering; 3D printing (rapid prototyping); and image processing and conversion of medical image data stacks (CAT scan, MRI, etc.) into 3D biomodels for CAD and CAE. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* University of Memphis faculty member (Fall).
- BIOM 807 The Science of Medicine** *Credit: 3 (48-0)* This course focuses on the integration and application of the principles of physics, chemistry, biology, and mathematics, and data extracted from clinical cases to develop solutions to typical medical problems. *Mode of delivery:* Didactic. *Offered:* Fall.
- BIOM 808 Recent Advances & Critical Reviews in Biomedical Engineering** *Credit: 1 (16-0)* This course consists of student presentations and group discussion of articles describing recent advances in biomedical engineering. The course emphasizes development of critical reading and writing skills. Oral and written reports are required. *Mode of delivery:* Didactic/Seminar format. May be repeated up to 3 credit hours *Offered:* Fall.
- BIOM 809 Special Topics in Biomedical Engineering** *Credit: 3 (48-0)* Courses using this number present in-depth development of frontier topics of biomedical engineering by eminent researchers in their fields. Course material will be appropriate as background for graduate research. Particular descriptions are contained in course offerings. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* Permission of the instructor *Offered:* Offered every term. *Instructor of Record:* Amy Abell (Spring).
- BIOM 811 Life Sciences for Biomedical Engineering I** *Credit: 3 (48-0)* The course serves as an introduction and application to aspects of the entire body, the course provides engineers and physical scientists with an understanding of aspects of the chemical, physical, and mechanical basis of cell shape, function, and motility. Integrated treatment of topics in cellular biochemistry, protein synthesis, energy releasing pathways, and membrane biophysics. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Richard Smith (Fall).
- BIOM 812 Functional Anatomy II** *Credit: 1 (8-16)* This course will give the necessary background for biomedical engineering student to apply engineering principles to functional anatomy and pathological processes of the axial and appendicular skeleton. The course will focus on shoulder, elbow, hand, wrist and spinal anatomy and applied biomechanics. The course will meet once a week alternating with Didactics and cadaveric labs. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* William Mihalko (Spring).
- BIOM 813 Bioelectricity** *Credit: 3 (48-0)* Introduction to electrical propagation through human tissue; membrane biophysics, action potentials, subthreshold stimuli, electrophysiology of heart, and neuromuscular junction. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Amy Curry (Spring).
- BIOM 815 Biomedical Measurements and Instrumentation** *Credit: 3 (16-64)* This is a course on measurement techniques applicable in biomedical engineering; data acquisition systems, mechanical instrumentation, interface systems, signal analyses, biocompatibility requirements. *Mode of delivery:* Didactic/ Lab. *Offered:* Fall. *Instructor of Record:* Brian Kelly (Fall).
- BIOM 818 Experimental Techniques in Cell and Tissue Engineering** *Credit: 3 (0-96)* The course covers basic biochemical and biophysical measurement techniques used by biomedical engineers. Topics include antibody production, light spectroscopy, dialysis, ultrafiltration, chromatography, ultracentrifugation, electrophoresis, Western blotting, protein purification, and ELISA. *Mode of delivery:* Lab. *Offered:* Spring term of even years. *Instructor of Record:* Joel Bumgardner (Spring).

- BIOM 821 Life Sciences for Biomedical Engineering II** *Credit: 3 (48-0)* Continuation of BIOM 811, Life Sciences for BME I, concentrating on human physiology. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Richard Smith (Spring).
- BIOM 824 Master's Project II** *Credit: 3 (0-96)* Independent study in biomedical engineering on a topic selected in conjunction with instructor. Oral and written reports required. *Mode of delivery:* Research based. *Offered:* Offered every term. *Instructor of Record:* Richard Smith (Spring).
- BIOM 825 Clinical/Industrial Internship in Biomedical Engineering** *Credit: 3 (0-96)* Independent study for biomedical engineering students in the master's program; investigation in at least one area selected from a master list and approved by the student's advisor. *Mode of delivery:* Lab. *Offered:* Offered as needed.
- BIOM 827 Movement, Joint, and Implant Mechanics** *Credit: 3 (16-64)* The course consists of the following sections: muscle and bone anthropometry; kinetics-the link model, mechanical work, energy, and power; kinematics and dynamics of rigid bodies; and the development of mechanically equivalent models of the human musculoskeletal system. *Mode of delivery:* Didactic and lab. *Offered:* Fall, Spring. *Instructor of Record:* Denis DiAngelo (Spring).
- BIOM 834 Statistics** *Credit: 3 (48-0)* This course will provide an introduction to statistical techniques used for analysis of basic and clinical biomedical engineering data: sampling theory, hypothesis testing, ANOVA, and nonparametric techniques. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Erno Lindner (Fall); Erno Lindner (Spring).
- BIOM 840 Section 001 Special Topics - Applied Biomedical Engineering** *Credit: 3 (48-0)* This course includes directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Offered as needed.
- BIOM 840 Section 002 Special Topics - Biomechanics and Rehabilitation Engineering** *Credit: 3 (48-0)* This course includes directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Offered as needed.
- BIOM 840 Section 003 Special Topics - Cell and Tissue Engineering** *Credit: 3 (48-0)* This course includes directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Offered as needed.
- BIOM 840 Section 004 Special Topics - Electrophysiology** *Credit: 3 (48-0)* This course includes directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Offered as needed.
- BIOM 840 Section 005 Special Topics - Medical Imaging** *Credit: 3 (48-0)* This course includes directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Offered as needed.
- BIOM 840 Section 006 Special Topics - Biocomputing** *Credit: 3 (48-0)* This course includes directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Offered as needed.
- BIOM 840 Section 007 Special Topics - Applied Finite Element Analysis** *Credit: 3 (48-0)* This course includes directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Offered as needed. *Instructor of Record:* Esra Roan (Spring).
- BIOM 845 Biosensors** *Credit: 3 (16-64)* Provides graduate and upper-level students with a deeper understanding of chemical sensors and biosensors, with special emphasis on electrochemical biosensors and their in vivo applications. The course will provide the theoretical basis and hands-on experience with macro and micro sensors and their fabrication. *Mode of delivery:* Didactic and lab. *Offered:* Fall, Spring. *Instructor of Record:* Erno Lindner (Fall).
- BIOM 850 Medical Imaging I** *Credit: 3 (48-0)* This course treats the basic mathematics, physics, technology and clinical use of medical imaging. Topics covered include theory and physics of x-ray and gamma radiation, imaging theory and image processing techniques used in medical imaging. *Mode of delivery:* Didactic. *Pre-Requisites:* Calculus, complex variables, and general physics *Offered:* Fall term of every other year. *Instructor of Record:* Thaddeus Wilson (Fall).

- BIOM 851 Medical Imaging II** *Credit: 3 (48-0)* This course treats the basic mathematics, physics, technology and clinical use of medical imaging. Topics covered include theory and physics of ultrasound and nuclear magnetic resonance, imaging theory and image processing techniques used in these imaging modalities. *Mode of delivery:* Didactic. *Pre-Requisites:* Calculus, complex variables, and general physics *Offered:* Spring term of every other year.
- BIOM 871 Theory of Continuous Media** *Credit: 3 (48-0)* This course studies the fundamentals of the mechanics of continua. It concerns the basic principles common to fluids and solids. A knowledge of continuum mechanics provides a foundation for studies in fluid and solid mechanics, material sciences, and other branches of science and engineering. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Eugene Eckstein (Spring).
- BIOM 873 Fluid Mechanics for Biomedical Engineers** *Credit: 3 (48-0)* Elements of hydrodynamics with applications to flow in biomedical systems; basic principles of continuity and Navier-Stokes equations; ideal and viscous flow, boundary layer solutions, fluid wave behavior; viscosity of plasma, blood, and viscoelastic fluids, principles of viscometry. *Mode of delivery:* Didactic. *Offered:* Fall term of every other year. *Instructor of Record:* Eugene Eckstein (Fall).
- BIOM 876 Biomaterials** *Credit: 3 (48-0)* Introduction to materials used in biomedical engineering; biocompatibility and uses of implantable materials such as ceramics, polyethylene, metals, composites and other materials. *Mode of delivery:* Didactic. *Offered:* Fall.
- BIOM 879 Biomechanics I** *Credit: 3 (48-0)* This course is an introduction to physiological systems with emphasis on structure and function of tissue and organs; application of continuum mechanics to understanding of tissue and organ behavior at microscopic and macroscopic levels; design analyses of surgical procedures and prosthetic devices. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* Michael Yen (Fall).
- BIOM 886 Advanced Biomaterials** *Credit: 3 (48-0)* This course covers materials used in biomedical applications in relationship to corrosion, crack propagation, creep, and related topics; tissue ingrowth into materials. *Mode of delivery:* Didactic. *Offered:* Spring term of even years. *Instructor of Record:* Warren Haggard (Fall).
- BIOM 889 Biomechanics II** *Credit: 3 (48-0)* This course covers mechanics of body movement, the stress and strain in tissues and organs, the strength, trauma, and tolerance limits of organs; and growth and change of living organs in response to stress and strain. *Mode of delivery:* Didactic. *Offered:* Spring.
- BIOM 892 Introduction to Chemical Sensors and Biosensors** *Credit: 3 (48-0)* This course covers measurement techniques, recognition processes, application of chemical sensors and biosensors for analysis of real samples. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Erno Lindner (Spring).
- BIOM 894 Physiologic Control Systems** *Credit: 3 (48-0)* Topics including modeling, representation, and analysis of engineering control systems using classical control theory. Latter part of the course focuses on special topics and physiological systems including advanced and adaptive control systems, blood glucose modeling and control, human movement control, and brain machine interfacing. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Brian Kelly (Spring).
- BIOM 900 Doctoral Dissertation and Research** *Credit: 1-9* Research performed under the direction of the student's Research Advisor in partial fulfillment of the requirements for the Ph.D. degree. *Mode of delivery:* Research based. *Offered:* Fall, Spring. *Instructor of Record:* Richard Smith (Fall); Richard Smith (Spring).
- BIOM 909 Special Topics in Biomedical Engineering** *Credit: 3 (48-0)* Courses using this number present in-depth development of frontier topics of Biomedical Engineering by eminent researchers in their fields. Course material will be appropriate as background for doctoral research. Particular descriptions are contained in course offerings. *Mode of delivery:* Didactics. *Pre-Requisites:* Admission by permission of the instructor. *Offered:* Fall, Spring.

Biomedical Sciences

- IP 800** **Master's Thesis and Research** *Credit: 1-9* Research performed under the direction and supervision of the respective student's advisor, in partial fulfillment of the requirements for the degree of Master of Science. *Mode of delivery:* Research based. *Offered:* Fall, Spring. *Instructor of Record:* Rennolds Ostrom (*Spring*).
- IP 801** **Integrity in the Conduct of Scientific Research** *Credit: 1* Pass/Fail This course consists of a study of the ethical principles and related federal and state laws that govern scientific research. Through a combination of lecture and case study discussion, students learn both the substance and application to scientific research of ethical principles and related laws. Topics addressed include research with human subjects, research with animals, the use of human biological materials, privacy and confidentiality of research and medical records, conflicts of interest, scientific misconduct, ownership of research, responsible reporting of research, and ethical training practices. The grade awarded to a student is based on the student's performance on a written midterm examination and a written final examination. The minimum score required to pass the course is 70, calculated as an average of the scores achieved on the midterm and final examinations. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Terrence Ackerman (*Spring*).
- IP 805** **Essentials of Molecular Biology** *Credit: 3 (48-0)* This course covers the essentials of prokaryotic and eukaryotic molecular biology. Topics include DNA and RNA structure; DNA replication, repair, and recombination; the mechanism and regulation of transcription; and protein translation. Fundamental concepts are reinforced by the discussion of human genetic diseases. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* John Cox (*Spring*).
- IP 806** **Biochemistry** *Credit: 3 (48-0)* The course presents the fundamental aspects of biochemistry including biochemical and biophysical principles (bonding, properties of water, thermodynamics, ionization and acid-base theory, and enzymology); structure, synthesis, and function of proteins and enzymes; metabolism of sugars, amino acids, nucleotides, nucleosides, vitamins, coenzymes and lipids; energy production and conversion; mitochondria and bioenergetics; photosynthesis; membrane transport proteins; cytochrome P450 and cell signaling. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* David Nelson (*Fall*).
- IP 810** **IPBS Seminars** *Credit: 1 (16-0)* Assigned readings in the original literature with student presentation and critical discussion of papers. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Rennolds Ostrom (*Fall*).
- IP 840** **Special Topics** *Credit: 1-5* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. May be repeated up to 30. *Offered:* Fall, Spring. *Instructor of Record:* Rennolds Ostrom (*Fall*); Rennolds Ostrom (*Spring*).
- IP 841** **Essentials of Cell Biology** *Credit: 3 (48-0)* This course provides an introduction to the cell and includes topics such as: animal cell structure; membrane compartmentalization; membrane transport; nuclear structure and dynamics; protein transport and modification; receptor signaling; cell motility and migration; cell cycle regulation; extracellular matrix and cell adhesion; general principles of development; and bacterial cell structure. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Aviv Hassid (*Fall*).
- IP 845** **Grant Writing in the Biomedical Sciences** *Credit: 3 (48-0)* Students will have an opportunity to find grant funding sources, write a proposal, and learn how to submit an actual grant proposal to an agency or foundation for consideration. The class will investigate current issues and topics related to research and grant writing in instructional technology. This course may not be audited. *Mode of delivery:* Seminar. *Offered:* Spring.
- IP 900** **Doctoral Dissertation and Research** *Credit: 1-9* Research performed under the direction and supervision of the respective student's Research Advisor in partial fulfillment of the requirements for the degree of Doctor of Philosophy. *Mode of delivery:* Research based. *Offered:* Fall, Spring. *Instructor of Record:* Rennolds Ostrom (*Fall*); Rennolds Ostrom (*Spring*).

- IP 940** **Molecular Biology of Cancer** *Credit: 4 (64-0)* The course will provide a comprehensive survey of cancer biology, describing the disrupted normal development processes, the altered molecular mechanisms that govern the functioning of malignant cells, the biology and treatments of common types of cancer, and the development of therapies for treatment of resistant and metastatic cancer cells. *Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Parker Suttle (Fall).*

Comparative Medicine

- CMED 711** **Essentials of Animal Experimentation** *Credit: 2 (16-32)* This course is designed to provide an overview of appropriate and effective use of animals in biomedical research. Topics to be covered include regulatory requirements, bi methodology, principles of experimental animal surgery, postoperative veterinary care, and animal care and use procedures. Emphasis is placed on practical experience with living animals and practice of techniques under anesthesia. No text is required. *Mode of delivery: Didactic and lab. Offered: Fall. Instructor of Record: Timothy Mandrell (Fall).*
- CMED 712** **Biology and Pathophysiology of Laboratory Animals I** *Credit: 2 (32-0)* This course expands on much of the material covered in CMED 711. Emphasis will be placed on the following species: mice, rats, guinea pigs, rabbits, and hamsters. Subjects to be covered include the taxonomy, applied anatomy and physiology, pharmacology, genetics, immunology, nutrition, behavior, husbandry, use as an animal model, and in-depth pathophysiology of significant diseases of each species. Emphasis will be placed on features that make a particular species uniquely suitable for certain types of research. *Mode of delivery: Didactic. Pre-Requisites: CMED 711, Essentials of Animal Experimentation Offered: Spring term of every other year. Instructor of Record: David Hamilton (Spring).*
- CMED 713** **Biology and Pathophysiology of Laboratory Animals II** *Credit: 2 (32-0)* Continuation of 712. Emphasis will be placed on the following species: dogs, cats, sheep, goats, pigs and a variety of nonhuman primates. Rarely used research species, such as amphibians, reptiles, fish, avian species, and certain invertebrates will be covered to a lesser degree. Subjects to be covered include the taxonomy, applied anatomy and physiology, pharmacology, genetics, immunology, nutrition, behavior, husbandry, use as an animal model, and in-depth pathophysiology of significant diseases of each species. Emphasis will be placed on features that make a particular species uniquely suitable for certain types of research. *Mode of delivery: Didactic. Pre-Requisites: CMED 712, Biology and Pathophysiology of Laboratory Animals I Offered: Spring term of every other year. Instructor of Record: David Hamilton (Spring).*

Dental Science

- DSCI 610** **Graduate Oral Biology** *Credit: 1 (16-0)* This course provides the students in specialty programs with an overview of the biology of oral tissue functions. The physiological and biochemical basis of normal and pathologic processes in oral diseases are emphasized. Topics include the role of the extracellular matrix in maintaining oral tissue functions during normal development and in the pathogenesis of oral and maxillofacial disorders; developmental aspects and cell interactions in the dentition and orthodontic tooth movement; and wound healing, joint destruction, and bone resorption. The course also provides an analysis of the conflict between oral pathogens and host defense systems; the role of saliva and cells of the immune system during infection, inflammation, healing, and repair; basic concepts in neuromuscular physiology including reflexes and pain in the oral cavity are emphasized; the role of neurotrophic factors in the development of teeth and peripheral taste system are discussed, as well as tooth innervation and the development of therapies for idiopathic dental pain. A brief exposure to oral cancer biology, the mechanism of tumor progression, and biomarkers in oral cancer are discussed. *Mode of delivery: Didactic. Offered: Spring. Instructor of Record: None - not offered (Spring).*

- DSCI 653 Human Growth and Development** *Credit: 1 (16-0)* This course provides an overview of the events of human growth and the analytic approaches used to study growth, particularly from birth to adulthood. Discussions center around the nature of growth, mechanisms of growth, general body development, and genetic and environmental influences on growth. Emphasis is given to the head and neck region. *Mode of delivery: Didactic. Offered: Spring. Instructor of Record: None - not offered (Spring).*
- DSCI 659 Radiology and Cephalometrics** *Credit: 2 (16-32)* The course is designed to acquaint the student with the use of radiographs, radiation hygiene, radiographic evidence of pathology, and cephalometric techniques to assure proficiency in technical skills and in interpretation as needed for diagnostic procedures. The student is exposed to the history of cephalometrics in orthodontics. Both 2 dimensional and 3 dimensional analyses of facial morphology are presented and used to demonstrate the use of cephalometrics in orthodontic treatment planning. *Mode of delivery: Didactic and lab. Offered: Fall. Instructor of Record: Holland Maness (Fall).*
- DSCI 705 Advanced Oral and Maxillofacial Pathology** *Credit: 1 (32-0)* This is a course on pathology of the jaws and contiguous soft tissues and their relationship to systemic disease. Special emphasis is placed on developing a logical approach to clinical, roentgenographic, and histopathologic diagnosis; the relationships between local and systemic disease; and consideration for appropriate treatment. *Mode of delivery: Didactic. Offered: Spring. Instructor of Record: Yeshwant Rawal (Spring).*
- DSCI 710 Advanced Dental Applied Pharmacology** *Credit: 1-2 (16-0)* This graduate course focuses on the clinical application of advanced pharmacologic and pharmacotherapeutic principles for specialty practitioners in dentistry. Topics covered include general pharmacology principles, alternative (herbal) products, emergency medicine drugs, drugs affecting the central & autonomic nervous systems, drugs affecting the cardiovascular system, agents used in conscious sedation, local analgesics & vasoconstrictors, chemotherapy drugs, immunosuppressant drugs, antihistamines, autacoids, and anti-inflammatory medications. Issues of age-related alterations in pharmacodynamics, the problems of poly-pharmacy, and important drug-drug interactions are highlighted and discussed. The course incorporates self-study through an online instructional instrument and seminar sessions devoted to evidence-based literature reviews covering topics of interest to dental specialists. Participants are expected to have a basic understanding of pharmacology and pharmacokinetics. *Mode of delivery: Didactic. Offered: Spring. Instructor of Record: Trevor Sweatman (Spring).*
- DSCI 717 Orthodontics-Periodontics Seminar** *Credit: 1 (16-0)* This seminar is conducted weekly during one term of the three year residency by members of the Orthodontics and Periodontics faculties. Included are lectures on the interrelationships of orthodontic and periodontic approaches to common treatment situations. Selected literature of common interest to the students of Orthodontics and Periodontics is reviewed. Residents present cases for diagnosis and treatment planning as well as cases treated in an interdisciplinary manner. The purpose of this seminar is to encourage greater interaction and understanding between orthodontists and periodontists, including the identification of patients to be treated jointly by residents in orthodontics and periodontics. *Mode of delivery: Didactic and Seminar. Offered: Fall. Instructor of Record: Swati Rawal (Fall).*
- DSCI 800 Thesis** *Credit: 1-9* Upon achieving candidate status, this course must be elected. The preparation of the thesis is finalized, the results presented, and the oral defense is conducted under this course number. *Mode of delivery: Didactic and lab, clinical and web-based Hybrid. May be repeated up to 24 credit hours Offered: Fall, Spring. Instructor of Record: Thesis Supervisor (Fall).*

- DSCI 801 Dental Ethics** *Credit: 1 (16-0)* Courses Online Dental Ethics (CODE) is a series of online courses in dental ethics and professionalism. The American College of Dentists developed and manages CODE and related resources at www.dentaethics.org. There are no registration fees or tuition and the American College of Dentists welcomes and encourages coordinated educational experiences in educational facilities. There are currently over 30 online ethics modules intended for all dental students and professional. Sixteen of the modules identified as particularly relevant to postgraduate dental education and the specialty practice of dentistry will constitute this course. The sequence for each module encompasses the following steps: Register online for the 16-module UT sequence; Select and enter the module of interest; Read the module's learning objectives; Read the module's descriptive and review materials; Login and take the test; View your test results; Complete the course evaluation; Print the Verification of Course Completion and receive results by e-mail. *Mode of delivery:* Didactic Online. *Offered:* Spring. *Instructor of Record:* David Cagna (Spring).
- DSCI 802 Clinical Head and Neck Anatomy** *Credit: 1 (16-0)* This course presents a detailed study of anatomic structures fundamental to dental specialty training. Emphasis is placed on functional (rather than architectural) relationships as they relate to growth, development, and clinical treatment. Participants review standard texts of anatomy and radiology, and other professional literature, in order to support specialty-specific questions/topics. Instructor will guide discussion, add and source information, present clinical case(s), sample corollaries and questions. Groups, with representatives from each dental specialty, will present a topical overview followed by clinical correlates and imagery. *Mode of delivery:* Seminar.
- DSCI 805 Section 001 Biomedical Core I - Histology/Embryology** *Credit: 1 (16-0)* Biomedical Core 1 is the first in a series of four core courses making up a four-term core curriculum for dental residents. Core 1 is designed to teach dental residents how to integrate into their clinical specialties (i.e., periodontics, prosthodontics, pediatric dentistry, endodontics, and orthodontics) what is currently known about Histology, Embryology, Microbiology, Immunology, and Experimental Research Design. Upon completion of the course the student will be able to: (1) integrate established knowledge and newly published research and techniques across the fields of histology, embryology, microbiology, immunology, and experimental research design; (2) apply established knowledge in the fields of histology, embryology, microbiology, and immunology to their respective clinical practices, and utilize new information acquired from current research to pioneer new techniques of diagnosis and treatment in their respective clinical practices; and (3) design sound clinical studies to test new hypotheses regarding the diagnosis and treatment of dental diseases. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Yeshwant Rawal (Fall).
- DSCI 805 Section 002 Biomedical Core I - Experimental Design** *Credit: 1 (16-0)* Biomedical Core 1 is the first in a series of four core courses making up a four-term core curriculum for dental residents. Core 1 is designed to teach dental residents how to integrate into their clinical specialties (i.e., periodontics, prosthodontics, pediatric dentistry, endodontics, and orthodontics) what is currently known about Histology, Embryology, Microbiology, Immunology, and Experimental Research Design. Upon completion of the course the student will be able to: (1) integrate established knowledge and newly published research and techniques across the fields of histology, embryology, microbiology, immunology, and experimental research design; (2) apply established knowledge in the fields of histology, embryology, microbiology, and immunology to their respective clinical practices, and utilize new information acquired from current research to pioneer new techniques of diagnosis and treatment in their respective clinical practices; and (3) design sound clinical studies to test new hypotheses regarding the diagnosis and treatment of dental diseases. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Mark Scarbecz (Fall).

- DSCI 805 Section 003 Biomedical Core I - Microbiology/Immunology** *Credit: 1 (16-0)* Biomedical Core 1 is the first in a series of four core courses making up a four-term core curriculum for dental residents. Core 1 is designed to teach dental residents how to integrate into their clinical specialties (i.e., periodontics, prosthodontics, pediatric dentistry, endodontics, and orthodontics) what is currently known about Histology, Embryology, Microbiology, Immunology, and Experimental Research Design. Upon completion of the course the student will be able to: (1) integrate established knowledge and newly published research and techniques across the fields of histology, embryology, microbiology, immunology, and experimental research design; (2) apply established knowledge in the fields of histology, embryology, microbiology, and immunology to their respective clinical practices, and utilize new information acquired from current research to pioneer new techniques of diagnosis and treatment in their respective clinical practices; and (3) design sound clinical studies to test new hypotheses regarding the diagnosis and treatment of dental diseases. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* David Tipton (Spring).
- DSCI 806 Section 001 Biomedical Core II - Oral Biology** *Credit: 1-2 (16-0)* Biomedical Core 2 is the second in a series of four core courses making up a four-term core curriculum for dental residents. Core 2 is designed to teach dental residents how to integrate into their clinical specialties (i.e., periodontics, prosthodontics, pediatric dentistry, endodontics, and orthodontics) what is currently known about Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy. Upon completion of the course the student will be able to: (1) integrate established knowledge and newly published research and techniques across the fields of Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy; (2) apply established knowledge in the fields of Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy to their respective clinical practices, and utilize new information acquired from current research to pioneer new techniques of diagnosis and treatment in their respective clinical practices; and (3) design sound clinical and in vitro studies to test new hypotheses regarding the diagnosis and treatment of dental diseases. *Mode of delivery:* Didactic Hybrid. *Offered:* Spring. *Instructor of Record:* Mustafa Dabbous (Spring).
- DSCI 806 Section 002 Biomedical Core II - Biostatistics** *Credit: 1 (16-0)* Biomedical Core 2 is the second in a series of four core courses making up a four-term core curriculum for dental residents. Core 2 is designed to teach dental residents how to integrate into their clinical specialties (i.e., periodontics, prosthodontics, pediatric dentistry, endodontics, and orthodontics) what is currently known about Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy. Upon completion of the course the student will be able to: (1) integrate established knowledge and newly published research and techniques across the fields of Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy; (2) apply established knowledge in the fields of Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy to their respective clinical practices, and utilize new information acquired from current research to pioneer new techniques of diagnosis and treatment in their respective clinical practices; and (3) design sound clinical and in vitro studies to test new hypotheses regarding the diagnosis and treatment of dental diseases. *Mode of delivery:* Didactic Hybrid. *Offered:* Spring. *Instructor of Record:* Mark Scarbecz (Fall).

- DSCI 806 Section 003 Biomedical Core II - Biomechanics & Biomaterials** *Credit: 1 (16-0)*
 Biomedical Core 2 is the second in a series of four core courses making up a four -term core curriculum for dental residents. Core 2 is designed to teach dental residents how to integrate into their clinical specialties (i.e., periodontics, prosthodontics, pediatric dentistry, endodontics, and orthodontics) what is currently known about Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy. Upon completion of the course the student will be able to: (1) integrate established knowledge and newly published research and techniques across the fields of Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy; (2) apply established knowledge in the fields of Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy to their respective clinical practices, and utilize new information acquired from current research to pioneer new techniques of diagnosis and treatment in their respective clinical practices; and (3) design sound clinical and in vitro studies to test new hypotheses regarding the diagnosis and treatment of dental diseases. *Mode of delivery:* Didactic Hybrid. *Offered:* Spring. *Instructor of Record:* Antheunis Versluis (Fall); Antheunis Versluis (Spring).
- DSCI 806 Section 004 Biomedical Core II - Craniofacial Anatomy** *Credit: 2 (16-32)* Biomedical Core 2 is the second in a series of four core courses making up a four -term core curriculum for dental residents. Core 2 is designed to teach dental residents how to integrate into their clinical specialties (i.e., periodontics, prosthodontics, pediatric dentistry, endodontics, and orthodontics) what is currently known about Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy. Upon completion of the course the student will be able to: (1) integrate established knowledge and newly published research and techniques across the fields of Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy; (2) apply established knowledge in the fields of Oral Biology, Biostatistics, Biomechanics/Biomaterials, and Craniofacial Anatomy to their respective clinical practices, and utilize new information acquired from current research to pioneer new techniques of diagnosis and treatment in their respective clinical practices; and (3) design sound clinical and in vitro studies to test new hypotheses regarding the diagnosis and treatment of dental diseases. *Mode of delivery:* Didactic and lab Hybrid. *Offered:* Spring. *Instructor of Record:* Judith W McGuire (Fall).
- DSCI 810 Advanced Applied Dental Pharmacology** *Credit: 2 (32-0)* This course is designed to teach dental postgraduate students how to integrate current knowledge of pharmacology into their clinical specialties (i.e., periodontics, prosthodontics, pediatric dentistry, endodontics, and orthodontics). A wide range of drug classifications pertinent to specialty-level dental therapy are addressed. Issues of age-related alterations in pharmacodynamics, the problems of poly-pharmacy, and important drug-drug interactions are illustrated and discussed. The course incorporates self-study through an online instructional instrument and correlative seminar sessions devoted to evidence-based literature reviews covering topics of particular interest to dental specialists. The course is limited to postgraduate dental students currently enrolled in dental residency programs. Participants are expected to already have a basic understanding of pharmacology and pharmacokinetics. *Mode of delivery:* Seminar Hybrid. *Offered:* (not currently offered).
- DSCI 811 Oral Sciences I** *Credit: 1 (16-0)* This course is designed to provide fundamental knowledge on the development, morphology, histology and function of basic tissue, dentofacial structures including the salivary glands, teeth, and the temporomandibular joint. The understanding of this science is essential because it lays the foundation for an insight into the form and structure of the human body in general and the orofacial and dental tissue in particular. This is a self-study course. Topic handouts are provided electronically for guidance. Reference to the highly recommended reading list is encouraged and advised. *Mode of delivery:* Independent study. *Offered:* (not currently offered).

- DSCI 812 Research Methods** *Credit: 3 (48-0)* This course is composed of two components. The biostatistics portion of this course introduces students to widely used methods for analysis of experimental and observational data with orientation toward statistical inference from dental research. The experimental design aspect of this course serves as an introduction to research, including methods for handling experimental data. *Mode of delivery:* Didactic. *Offered:* (not currently offered).
- DSCI 813 Biomaterials and Biomechanics** *Credit: 1 (16-0)* Metals, polymers, and ceramics are ubiquitous throughout the various dental disciplines. Providing a high quality of oral healthcare requires basic understanding of the physical response of these materials. To stay informed and exploit contemporary and emerging insights, dental professionals must stay current with the biomaterials literature. The purpose of this course is to gain experience in the critical reading and evaluation of the biomaterials literature. Students will learn basic biomechanical and biomaterial concepts and research techniques, while practicing critical evaluations of the dental literature using selected publications relevant to dentistry and research methodology. After completion of this course, a student should be able to successfully evaluate scientific investigations of dental materials and translate this knowledge to their clinical training with the ultimate goal of improving patient treatment and care. *Mode of delivery:* Didactic. *Offered:* (not currently offered).
- DSCI 815 Oral Diagnostics and Oral Medicine** *Credit: 2 (32-0)* This course covers basic concepts of the various oral diagnostic disciplines and adds current concepts of oral medicine and patient management of common oral and maxillofacial diseases. *Mode of delivery:* Didactic. *Offered:* (not currently offered).

Endodontics

- ENDO 600 Research I** *Credit: 4 (0-128)* In this course, students will work on individual research projects under the supervision of an individual advisor experienced in research methodologies and scientific writing. *Mode of delivery:* Lab. May be repeated 6 times up to 24 credit hours *Offered:* Fall. *Instructor of Record:* Adam Lloyd (Fall); David Clement (Spring).
- ENDO 601 Research II** *Credit: 4 (0-128)* Students will work on individual research projects under the supervision of an individual advisor experienced in research methodologies and scientific writing. *Mode of delivery:* Independent research. *Offered:* Spring.
- ENDO 611 Contemporary Evidence-Based Journal Club I** *Credit: 2 (32-0)* Ongoing review of current, pertinent, professional literature is fundamental to the successful practice of endodontics. For postdoctoral students, knowledge of current professional literature is essential to developing theoretical and practical patient management skills. The assessment of current literature for its evidence-based value is critical. Journal Club provides a mechanism for surveying dental periodicals with high impact factors to identify important articles, reviewing those articles, and discussing each article in an open seminar format. *Mode of delivery:* Seminar. May be repeated 6 times up to 12 credit hours *Offered:* Fall. *Instructor of Record:* David Clement (Fall); Adam Lloyd (Spring).
- ENDO 612 Contemporary Evidence Based Journal Club II** *Credit: 2 (32-0)* The course has a basic journal club format, and involves surveying major dental periodicals to identify important articles, reviewing those articles, and discussing each article in an open face to face format. Journal Club provides a mechanism for surveying dental periodicals with high impact factors to identify important articles, reviewing those articles, and discussing each article in an open seminar format. *Mode of delivery:* Seminar. *Offered:* Spring.
- ENDO 614 Classic Literature Review I** *Credit: 4 (64-0)* Continuous weekly seminar devoted to review of endodontic and related literature and discussion of research methods. Selected articles in a particular topic are carefully reviewed and analyzed. Through this sequence, residents learn to critically read and evaluate the scientific evidence that supports endodontic principles and practice. *Mode of delivery:* Seminar. May be repeated 6 times up to 24 credit hours *Offered:* Fall. *Instructor of Record:* Adam Lloyd (Fall); David Clement (Spring).

ENDO 615 Classic Literature Review II *Credit: 4 (64-0)* Continuous weekly seminar devoted to review of endodontic and related literature and discussion of research methods. Selected articles in a particular topic are carefully reviewed and analyzed. Through this sequence, residents learn to critically read and evaluate the scientific evidence that supports endodontic principles and practice. *Mode of delivery:* Seminar. *Offered:* Spring.

Orthodontics

ORTH 655 Clinical Specialty Seminars I *Credit: 2 (32-0)* This course is a companion to clinical training in orthodontics and involves Faculty and student evaluations of historically significant as well as contemporary orthodontic literature. Current research articles in the key journals in orthodontics are reviewed as they are published. Key historical literature based on readings compiled by the American Association of Orthodontists, the American Board of Orthodontics and the Faculty is presented in Lecture by the graduate students. The students are also exposed to the historical development of orthodontics, additional treatment philosophies through guest speakers, and new developments in treatment. *Mode of delivery:* Seminar. *Offered:* Fall. *Instructor of Record:* Edward F. Harris (Fall).

ORTH 664 Biomechanical Principles *Credit: 1 (16-0)* This course is a comprehensive survey of biomechanical principles utilizing Newtonian mechanics to describe the interplay between forces applied by fixed and removable orthodontic appliances and the resulting movement of teeth. *Mode of delivery:* Didactic. *Offered:* Spring term every other year (not currently offered).

ORTH 667 Clinical Specialty Seminars II *Credit: 2 (32-0)* This course is a companion to clinical training in orthodontics and involves Faculty and student evaluations of historically significant as well as contemporary orthodontic literature. Current research articles in the key journals in orthodontics are reviewed as they are published. Key historical literature based on readings compiled by the American Association of Orthodontists, the American Board of Orthodontics and the Faculty is presented in Lecture by the graduate students. The students are also exposed to the historical development of orthodontics, additional treatment philosophies through guest speakers, and new developments in treatment. *Mode of delivery:* Seminar. *Offered:* Spring.

ORTH 755 Craniofacial Growth *Credit: 1 (16-0)* This course provides an overview of the events of human growth and the analytic approaches used to study growth, particularly from birth to adulthood. Discussions center around the nature of growth, mechanisms of growth, general body development, and genetic and environmental influences on growth. Emphasis is given to the head and neck region. Topics in growth malformations and dysplasias are presented. The etiology, presentation, differential diagnosis, and orthodontic treatment of comparatively common pharyngeal arch syndromes and sequences are described, with extended discussion of cleft lip and palate. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Edward F. Harris (Spring).

ORTH 767 Clinical Specialty Seminars III *Credit: 2 (32-0)* This course is a companion to clinical training in orthodontics and involves Faculty and student evaluations of historically significant as well as contemporary orthodontic literature. Current research articles in the key journals in orthodontics are reviewed as they are published. Key historical literature based on readings compiled by the American Association of Orthodontists, the American Board of Orthodontics and the Faculty is presented in Lecture by the graduate students. The students are also exposed to the historical development of orthodontics, additional treatment philosophies through guest speakers, and new developments in treatment. *Mode of delivery:* Seminar. *Offered:* Fall. *Instructor of Record:* Edward F. Harris (Fall).

- ORTH 768 Clinical Specialty Seminars IV** *Credit: 2 (32-0)* This course is a companion to clinical training in orthodontics and involves Faculty and student evaluations of historically significant as well as contemporary orthodontic literature. Current research articles in the key journals in orthodontics are reviewed as they are published. Key historical literature based on readings compiled by the American Association of Orthodontists, the American Board of Orthodontics and the Faculty is presented in Lecture by the graduate students. The students are also exposed to the historical development of orthodontics, additional treatment philosophies through guest speakers, and new developments in treatment. *Mode of delivery:* Seminar. *Offered:* Fall.
- ORTH 770 Speech and Myofunctional Therapy** *Credit: 1 (16-0)* This course explores current concepts regarding speech development and production, and diagnostic and therapeutic interventions for speech, swallowing, structural, and myofunctional disorders, primarily in children. The main focus will be toward detailed definition, description, evaluation, and treatment, providing an overall understanding of the speech-language pathology profession and available services; thereby, enhancing collaboration between the professions of dentistry, orthodontics and speech-language pathology. This course includes traditional lecture as well as live-video conferencing with direct interaction and communication between the Faculty and students. *Mode of delivery:* Didactic. *Offered:* Spring.
- ORTH 785 Scientific Writing: Thesis** *Credit: 1 (16-0)* The theory and practice of writing a scientifically based thesis are presented. The purpose, structure, and style of all the parts of a thesis are described. The practical application of this series of lectures is the development of a defensible thesis proposal. The course lectures describe the rationale, sample selection and methodology of the original research project. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Edward F. Harris (Fall).
- ORTH 786 Scientific Writing: Thesis Protocol** *Credit: 1 (16-0)* The theory and practice of preparing a sound protocol preparatory to thesis-level research is discussed in detail. Various research designs are discussed. Additionally, style and content of a grant proposal are reviewed. Building on ORTH 785, the student is expected to develop a thorough review of the literature relating to his research topic, develop the written methodology in greater detail, complete IRB approval as needed, and initiate sample collection and data acquisition as indicated. The course consists of some lecture material common to all students in the class, but most contact time involves one-on-one discussions between the Faculty and student. *Mode of delivery:* Didactic and independent study. *Pre-Requisites:* ORTH 785, Scientific Writing *Offered:* Fall. *Instructor of Record:* Edward F. Harris (Fall); Edward F. Harris (Spring).
- ORTH 789 Independent Research** *Credit: 4 (16-96)* This course encompasses the activities necessary to conduct an original research project pertinent to the general field of craniofacial biology or the specific discipline of orthodontics. It involves the development of a problem, the writing of a formal research proposal including a full literature review, statement of material and methods, and the execution of the research and appropriate analysis and interpretation of data. *Mode of delivery:* Didactic and lab. *Offered:* Spring. *Instructor of Record:* Edward F. Harris (Fall).
- ORTH 840 Special Topics** *Credit: 1 (16-0)* Directed readings or special course in topics of current interest. The student can select a specific topic. *Mode of delivery:* Seminar. *Pre-Requisites:* Approval must be obtained from student's advisor and course instructor prior to enrollment. *Offered:* Fall, Spring. *Instructor of Record:* Terry Trojan (Spring).
- ORTH 856 Craniofacial Anomalies** *Credit: 1 (16-0)* The orthodontic graduate student must be trained to deal with and to competently treat patients who present with various skeletal and dental anomalies. This course's purpose is to cover the literature on the various syndromes and developmental anomalies that affect the teeth and the face. With emphasis on the interdisciplinary care required during the treatment of such anomalies, visiting lecturers from across the spectrum of healthcare delivery address the class and explain the intricacies of dealing with these problems from the perspective of their respective specialty. *Mode of delivery:* Didactic and Seminar. *Offered:* Spring. *Instructor of Record:* William G. Parris (Spring).

- ORTH 857 TMD and Occlusal Concepts** *Credit: 1 (16-0)* Orthodontic treatment has many ramifications for the stomatognathic system and the temporomandibular joint. This course requires the student to read the appropriate literature, understand the intricacies of the interrelationship of the occlusion and the TMJ, and apply these principles to the correction of orthodontic malocclusion. *Mode of delivery:* Didactic and lab. *Offered:* Fall, Spring. *Instructor of Record:* Joe L. Wasson (*Fall*); Joe L. Wasson (*Spring*).
- ORTH 858 Orthodontic History and Ethics** *Credit: 1 (16-0)* This course is an introduction to the history of the development of the specialty of orthodontics with emphasis on the personalities involved in the development and evolution of the specialty. Ethical dilemmas occurring in orthodontics are discussed during the study and critical evaluation of the literature and other information pertaining to the field of ethics. *Mode of delivery:* Didactic and Seminar. *Offered:* Fall. *Instructor of Record:* David H. Crowder (*Fall*).
- ORTH 859 Speech and Myofunctional Therapy** *Credit: 1 (16-0)* The objective of this course is to provide a basic understanding of speech development and production, and diagnostics and therapeutic interventions for speech-related disorders, primarily in children. Attention will be directed toward detailed definition, description, evaluation, and treatment, providing an overall understanding of the profession and available services; thereby, enhancing the process of collaboration between the professions of dentistry, orthodontics and speech-language pathology. *Mode of delivery:* Didactic and Seminar. *Offered:* Spring. *Instructor of Record:* Kristin A. King (*Spring*).
- ORTH 860 Surgical Correction of Dentofacial Deformities** *Credit: 1 (16-0)* This course is designed to provide a basic understanding of options available to patients who require surgical correction of significant dentofacial deformities. Attention will be directed towards the surgical diagnosis of such patients and review of the common surgical procedures required to treat these patients. *Mode of delivery:* Didactic and Seminar. *Offered:* Spring. *Instructor of Record:* James Christian (*Spring*).
- ORTH 867 Clinical Specialty Seminars V** *Credit: 2 (32-0)* This course is a companion to clinical training in orthodontics and involves Faculty and student evaluations of historically significant as well as contemporary orthodontic literature. Current research articles in the key journals in orthodontics are reviewed as they are published. Key historical literature based on readings compiled by the American Association of Orthodontists, the American Board of Orthodontics and the Faculty is presented in Lecture by the graduate students. The students are also exposed to the historical development of orthodontics, additional treatment philosophies through guest speakers, and new developments in treatment. *Mode of delivery:* Didactic and Seminar. *Offered:* Fall. *Instructor of Record:* Edward F. Harris (*Fall*).
- ORTH 868 Clinical Specialty Seminars VI** *Credit: 2 (32-0)* This course is a companion to clinical training in orthodontics and involves Faculty and student evaluations of historically significant as well as contemporary orthodontic literature. All of the current research articles in the key journals in orthodontics are reviewed as they are published. Key historical literature based on readings compiled by the American Association of Orthodontists, the American Board of Orthodontics and the Faculty is presented in Lecture by the graduate students. The students are also exposed to the historical development of orthodontics, additional treatment philosophies through guest speakers, and new developments in treatment. *Mode of delivery:* Didactic and Seminar. *Offered:* Spring.
- ORTH 869 Orthodontic Classic Literature Seminar** *Credit: 2 (32-0)* This course is a companion to clinical training in orthodontics and involves faculty and student evaluations of historically significant orthodontic literature. Key historical literature based on reading lists compiled by the American Association of Orthodontists, the American Board of Orthodontics and the faculty is presented in Lecture by the graduate students. The students are also exposed to the historical development of orthodontics, additional treatment philosophies by through guest speakers and relevant new developments in treatment. Students in the Advanced Orthodontic Program participate in this seminar each term of their three-year residency. *Mode of delivery:* Seminar. May be repeated up to 12 credit hours *Offered:* Fall, Spring. *Instructor of Record:* Edward F. Harris (*Spring*).

- ORTH 870 Contemporary Evidence Based Orthodontic Journal Club** *Credit: 2 (32-0)* This course is a companion to clinical training in orthodontics and involves faculty and student evaluations of contemporary orthodontic literature. Current research articles in the key journals in orthodontics are reviewed as they are published. The assessment of current literature for its evidence-based value is critical. Journal Club provides a mechanism for surveying major orthodontic periodicals to identify important articles, reviewing those articles and discussing each article in an open seminar format. Students in the Advanced Orthodontic Program participate in this seminar each term of their three-year residency. *Mode of delivery:* Seminar. May be repeated up to 12 credit hours *Offered:* Fall, Spring. *Instructor of Record:* Nathan R. Hamman (*Spring*).
- ORTH 888 Scientific Writing: The Journal Article** *Credit: 1 (16-0)* Students receive instruction on writing a research article and preparing the manuscript for submission to a professional journal. Topics consist of essential tools for scientific writing, the structural components of a journal article, writing techniques, design of tables and illustrations, critical and editorial scrutiny of the manuscript, and the journal publishing process. *Mode of delivery:* Didactic. *Pre-Requisites:* Possession of a recently completed research project conducted in-residence (i.e., the graduate student's thesis) judged by the supervising Faculty member to be worthy of publication *Offered:* Spring.
- ORTH 895 Independent Research** *Credit: 4 (0-128)* This course involves performance of an original research project leading to completion of the MDS thesis. *Mode of delivery:* Lab. May be repeated up to 8 credit hours *Offered:* Fall, Spring. *Instructor of Record:* Edward F. Harris (*Fall*).
- ORTH 896 Independent Research** *Credit: 8 (0-256)* This Course encompasses the activities necessary to conduct an original research project pertinent to the general field of craniofacial biology or the specific discipline of orthodontics. It involves the development of a problem, the writing of a formal research proposal including a full literature review, statement of material and methods, and the execution of the research and appropriate analysis and interpretation of data. *Mode of delivery:* Lab. May be repeated up to 16 credit hours *Offered:* Fall, Spring.

Pediatric Dentistry

- PDCH 622 Dental Pediatrics I** *Credit: 1 (16-0)* The course entails discussions pertaining to the emotional, cognitive, language, and social changes in the maturing child. Theory regarding nonpharmacologic behavior management is presented. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* Steven P. Hackmyer (*Fall*); Steven P. Hackmyer (*Spring*).
- PDCH 623 Dental Pediatrics II** *Credit: 1 (16-0)* The course entails discussions pertaining to the emotional, cognitive, language, and social changes in the maturing child. Theory regarding nonpharmacologic behavior management is presented. *Mode of delivery:* Didactic. *Offered:* Spring.
- PDCH 635 Pediatric Dental Research I** *Credit: 1-5* The student is required to complete a research project in the field of pediatric dentistry and write a publishable research paper prior to program graduation. This course teaches the theory and practice of investigative research studies including methods for designing experiments, evaluating experimental data and writing a research proposal. This course includes traditional lecture, web-based content, clinical and laboratory components. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Martha H. Wells (*Fall*).
- PDCH 636 Pediatric Dental Research II** *Credit: 1 (16-0)* This course encompasses the activities necessary to write a formal research proposal including a full literature review, statement of material and methods, appropriate data analysis techniques and associated resource requirements. This course includes traditional lecture, web-based content, clinical and laboratory components. *Mode of delivery:* Didactic. *Offered:* Spring.

- PDCH 646 Literature Review I** *Credit: 2 (32-0)* The literature review is designed to keep the postdoctoral student familiar with the current scientific literature as well as to prepare the individuals for board certification. Topics that are addressed throughout this series across four years of study include physical, psychological and social child development, behavior management, infant oral health, oral prevention of disease and trauma, histophysiology of pulp and oral disease, pain and anxiety control, dental materials, management of the developing dentition, management of the medically compromised patient, trauma, and medical ethics. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Steven P. Hackmyer (Fall).
- PDCH 647 Literature Review II** *Credit: 2 (32-0)* The literature review is designed to keep the postdoctoral student familiar with the current scientific literature as well as to prepare the individuals for board certification. Topics that are addressed throughout this series across four years of study include physical, psychological and social child development, behavior management, infant oral health, oral prevention of disease and trauma, histophysiology of pulp and oral disease, pain and anxiety control, dental materials, management of the developing dentition, management of the medically compromised patient, trauma, and medical ethics. *Mode of delivery:* Didactic. *Offered:* Spring.
- PDCH 648 Case Analysis and Presentations I** *Credit: 1 (16-0)* The student presents patient clinical examination records, models, radiographs and other diagnostic aids utilized to form a diagnosis and treatment plan. The diagnosis and treatment plan is presented to Faculty and colleagues for critical review and analysis. Pediatric dental laboratory techniques and clinical dentistry are introduced to the postgraduate student. *Mode of delivery:* Seminar. *Offered:* Fall. *Instructor of Record:* Martha H. Wells (Fall).
- PDCH 649 Case Analysis and Presentations II** *Credit: 1 (16-0)* The student presents patient clinical examination records, models, radiographs and other diagnostic aids utilized to form a diagnosis and treatment plan. The diagnosis and treatment plan is presented to Faculty and colleagues for critical review and analysis. Pediatric dental laboratory techniques and clinical dentistry are introduced to the postgraduate student. *Mode of delivery:* Seminar. *Offered:* Fall, Spring.
- PDCH 722 Dental Pediatrics III** *Credit: 1 (16-0)* The course entails discussions pertaining to genetics, physically and mentally disabled patient and/or associated craniofacial syndromes. Indications and preparation for pharmacologic behavior management is introduced. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Martha H. Wells (Fall).
- PDCH 723 Dental Pediatrics IV** *Credit: 1 (16-0)* Recognition of infection, differential diagnosis for disease and treatment of infectious diseases, pediatric dental techniques and appliances for physical tissue destruction, and nutrition are presented. *Mode of delivery:* Didactic. *Offered:* Spring.

- PDCH 724 Contemporary Pediatric Dentistry** *Credit: 2 (32-0)* This course given over the two years provides the pediatric postgraduate student with comprehensive lectures on a variety of subjects and topics pertinent to advanced pediatric dentistry. The topics that are covered include conscious sedation, pulp therapy, traumatic dental injuries, cariology and prevention, space maintenance, speech and language development, craniofacial growth and development, periodontal problems, ethics, advocacy, special patient care, infection control, restorative materials and techniques, behavior management, pediatric medicine, hospital dentistry, radiographic principles of pediatric, dental photography, psychosocial growth and development, pediatric oral pathology, nutrition, pharmacology, physical diagnosis and pediatric dental practice. Biomedical sciences topics are integrated over the two years. Students in the Advanced Pediatric Dental Program participate in this seminar each term of their two-year residency. Twelve broad topics pertinent to will provide the postgraduate student the knowledge beyond the pre-doctoral dental education to the level required of the specialty. Topics are covered on a rotational basis over a two-year program period. Seminars are led by the Pediatric Dentistry faculty. In addition, guest lecturers and other members of the University of Tennessee Health Science Center faculty will participate. *Mode of delivery:* Seminar. May be repeated up to 8 credit hours. *Offered:* Spring. *Instructor of Record:* Steven P. Hackmyer (Spring).
- PDCH 735 Pediatric Dental Research III** *Credit: 2 (0-64)* This course encompasses the activities necessary to conduct a formal research investigation in the field of pediatric dentistry and prepare a publishable paper based on the findings of the investigation. *Mode of delivery:* Lab. *Offered:* Fall. *Instructor of Record:* Steven P. Hackmyer (Fall).
- PDCH 736 Pediatric Dental Research IV** *Credit: 2 (16-32)* This course encompasses the activities necessary to complete a formal research investigation in the field of pediatric dentistry and prepare a publishable paper based on the findings of the investigation. Didactic and lab and clinical course. *Mode of delivery:* Didactic. *Offered:* Spring.
- PDCH 746 Literature Review III** *Credit: 2 (32-0)* The literature review is designed to keep the postdoctoral student familiar with the current scientific literature as well as to prepare the individuals for board certification. Topics that are addressed throughout this series across four years of study include physical, psychological and social child development, behavior management, infant oral health, oral prevention of disease and trauma, histophysiology of pulp and oral disease, pain and anxiety control, dental materials, management of the developing dentition, management of the medically compromised patient, trauma, and medical ethics. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Martha H. Wells (Fall).
- PDCH 747 Literature Review IV** *Credit: 2 (32-0)* The literature review is designed to keep the postdoctoral student familiar with the current scientific literature as well as to prepare the individuals for board certification. Topics that are addressed throughout this series across four years of study include physical, psychological and social child development, behavior management, infant oral health, oral prevention of disease and trauma, histophysiology of pulp and oral disease, pain and anxiety control, dental materials, management of the developing dentition, management of the medically compromised patient, trauma, and medical ethics. *Mode of delivery:* Didactic. *Offered:* Spring.
- PDCH 748 Case Analysis and Presentations III** *Credit: 1 (16-0)* The student presents patient clinical examination records, models, radiographs and other diagnostic aids utilized to form a diagnosis and treatment plan. The diagnosis and treatment plan is presented to Faculty and colleagues for critical review and analysis. Pediatric dental laboratory techniques and clinical dentistry are introduced to the postgraduate student. *Mode of delivery:* Seminar. *Offered:* Fall, Spring. *Instructor of Record:* Martha H. Wells (Fall).

- PDCH 749 Case Analysis and Presentations IV** *Credit: 1 (16-0)* The student presents patient clinical examination records, models, radiographs and other diagnostic aids utilized to form a diagnosis and treatment plan. The diagnosis and treatment plan is presented to Faculty and colleagues for critical review and analysis. Pediatric dental laboratory techniques and clinical dentistry are introduced to the postgraduate student. *Mode of delivery:* Seminar. *Offered:* Fall, Spring.
- PDCH 750 Case Presentation Seminar** *Credit: 2 (32-0)* This seminar is an ongoing review of current, pertinent, various clinical case and didactic subject areas associated with pediatric dentistry and related sciences. For postdoctoral students, knowledge of clinical relevant topics is essential to developing theoretical and practical patient management skills. The assessment of clinical related topics from an evidence-based perspective is critical. This seminar helps to provide a mechanism to better prepare the postgraduate pediatric dental student clinical knowledge beyond the pre-doctoral dental education to the level required of the specialty. Students in the Pediatric Dentistry Program participate in this seminar each week throughout their two-year residency. Seminars are led by the Pediatric Dentistry faculty. Other guests and members of the University of Tennessee Health Science Center faculty are invited to participate when their expertise on the seminar topic is considered beneficial to the learning experience. *Mode of delivery:* Seminar. May be repeated up to 8 credit hours *Offered:* Spring. *Instructor of Record:* Martha H. Wells (*Spring*).
- PDCH 769 Classic Pediatric Dentistry Literature Review** *Credit: 2 (32-0)* This seminar provides exposure to historically relevant, scientific literature in various subject areas associated with pediatric dentistry and related sciences. Continuous weekly seminars are devoted to reviewing related literature and discussing research methods. Students in the Pediatric Dentistry Program participate in this seminar each term of their two-year residency. Nine broad topics pertinent to pediatric dentistry are covered on a rotational basis over a two-year period. The residents learn to critically read and evaluate the scientific evidence that supports pediatric dentistry principles and practice. Seminars are led by the Pediatric Dentistry faculty. Other outside guest and members of the University of Tennessee Health Science Center faculty are invited to participate when their expertise on the seminar topic is considered beneficial to the learning experience. *Mode of delivery:* Seminar. May be repeated up to 8 credit hours *Offered:* Spring. *Instructor of Record:* Jennifer B. Lou (*Spring*).
- PDCH 770 Contemporary Evidenced-Based Pediatric Dentistry Journal Club** *Credit: 2 (32-0)* This seminar is an ongoing review of current, pertinent, professional literature in various subject areas associated with pediatric dentistry and related sciences. For postdoctoral students, knowledge of current professional literature is essential to developing theoretical and practical patient management skills. The assessment of current literature for its evidence-based value is critical. Journal Club provides a mechanism for surveying major dental periodicals to identify important articles, reviewing those articles, and discussing each article in an open seminar format. Students in the Pediatric Dentistry Program participate in this seminar each week throughout their two-year residency in order to stay abreast of the ever-expanding volume of pediatric dentistry literature. Seminars are led by the Pediatric Dentistry faculty. Other guests and members of the University of Tennessee Health Science Center faculty are invited to participate when their expertise on the seminar topic is considered beneficial to the learning experience. *Mode of delivery:* Seminar. May be repeated up to 8 credit hours *Offered:* Spring. *Instructor of Record:* Hamid Yazdi (*Spring*).
- PDCH 840 Special Topics** *Credit: 2 (16-32)* This course includes directed readings or special course in topics of current interest and can include laboratory and clinical assignments as well as Lecture. *Mode of delivery:* Didactic and Lab. *Offered:* Fall.

Periodontics

- PERI 604 Experimental Design** *Credit: 1 (16-0)* This course is an introduction to research, including methods of designing experiments and evaluating experimental data. *Mode of delivery:* Didactic and Seminar. *Offered:* Spring.

- PERI 614 Research in Periodontal Pathobiology** *Credit: 2 (16-32)* This course will provide each resident with the opportunity to engage in periodontal research. It may include both clinical and laboratory research, with the emphasis in one or the other research areas. Each resident will be assigned a research mentor who is trained and experienced in research methodologies and writing of scientific papers. Instruction will be given by appropriate Faculty members on an individualized basis. Resident activities will include research of relevant literature, writing of appropriate literature reviews, hands on research, gathering and analysis of data, interpretation of results, drawing conclusions and writing papers appropriate for publication. The course will be integrated with the remainder of the curriculum throughout the 36 month duration of the program. *Mode of delivery:* Didactic and lab. *Offered:* Fall, Spring. *Instructor of Record:* Sidney Stein (Fall).
- PERI 615 Research in Periodontal Pathobiology** *Credit: 2 (16-32)* This course will provide each resident with the opportunity to engage in periodontal research. It may include both clinical and laboratory research, with the emphasis in one or the other research areas. Each resident will be assigned a research mentor who is trained and experienced in research methodologies and writing of scientific papers. Instruction will be given by appropriate Faculty members on an individualized basis. Resident activities will include research of relevant literature, writing of appropriate literature reviews, hands on research, gathering and analysis of data, interpretation of results, drawing conclusions and writing papers appropriate for publication. The course will be integrated with the remainder of the curriculum throughout the 36 month duration of the program. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* PERI 614, Research in Periodontal Pathology *Offered:* Fall, Spring. *Instructor of Record:* Sidney Stein (Spring).
- PERI 621 Introduction to Periodontal Pathobiology** *Credit: 3 (48-0)* This is an overview of periodontics in a combination textbook-literature-lecture seminar format. Subject areas covered include periodontal anatomy and histology, etiology and histopathology or periodontal diseases. Clinically related seminars include examination, diagnosis, prognosis and treatment planning for the patient with periodontal disease. A variety of approaches to treatment, as well as the importance of supportive therapy for the treated patient, is emphasized. Appropriate reading material from standard textbooks and the periodontal literature is assigned for each seminar period. *Mode of delivery:* Didactic. *Offered:* Fall, Spring.
- PERI 641 Topical Literature Review Seminar I** *Credit: 4 (64-0)* This seminar is conducted weekly throughout the first two years of the residency program under the direction of the postgraduate periodontics staff. The purpose of this seminar series is exposure to classic and current concepts in various subject areas, as well as written and verbal evaluation of the literature reviewed. *Mode of delivery:* Seminar. *Offered:* Fall. *Instructor of Record:* Rania Livada (Fall).
- PERI 642 Topical Literature Review Seminar II** *Credit: 4 (64-0)* This seminar is conducted weekly throughout the first two years of the residency program under the direction of the postgraduate periodontics staff. The purpose of this seminar series is exposure to classic and current concepts in various subject areas, as well as written and verbal evaluation of the literature reviewed. *Mode of delivery:* Seminar. *Offered:* Spring. *Instructor of Record:* Rania Livada (Spring).
- PERI 643 Review of Current Periodontal Literature Seminar I** *Credit: 2 (32-0)* This seminar series is conducted weekly throughout the three year residency period. Four of the major journals devoted to periodontics are reviewed selectively. Selected articles are also reviewed from other major journals. The purpose of this seminar is to provide experience in reading, abstracting, and evaluating the most recently published ideas and concepts in the field of periodontal biology. *Mode of delivery:* Seminar. *Offered:* Fall. *Instructor of Record:* Swati Rawal (Fall).

- PERI 644 Review of Current Periodontal Literature Seminar II** *Credit: 2 (32-0)* This seminar series is conducted weekly throughout the three year residency period. Four of the major journals devoted to periodontics are reviewed selectively. Selected articles are also reviewed from other major journals. The purpose of this seminar is to provide experience in reading, abstracting, and evaluating the most recently published ideas and concepts in the field of periodontal biology. *Mode of delivery: Seminar. Offered: Spring. Instructor of Record: Swati Rawal (Spring).*
- PERI 714 Research in Periodontal Pathobiology III** *Credit: 3 (0-96)* This course will provide each second-year student with a continuing opportunity to engage in periodontally related research for 6 hours per week. It may include both clinical and laboratory research. Each student will be assigned a research mentor who is trained and experienced in research methodologies and writing of scientific papers. Instruction will be given by appropriate Faculty members on an individualized basis. Student activities will include research of relevant literature, writing of appropriate literature reviews, hands-on research, gathering and analysis of data, interpretation of results, drawing conclusions, and writing papers appropriate for publication. Didactic, clinical and Lab. *Mode of delivery: Didactic, clinical and Lab. Offered: Fall. Instructor of Record: Sidney Stein (Fall).*
- PERI 715 Research in Periodontal Pathobiology IV** *Credit: 3 (0-96)* This course will provide each second-year student with a continuing opportunity to engage in periodontally related research for 6 hours per week. It may include both clinical and laboratory research. Each student will be assigned a research mentor who is trained and experienced in research methodologies and writing of scientific papers. Instruction will be given by appropriate Faculty members on an individualized basis. Student activities will include research of relevant literature, writing of appropriate literature reviews, hands-on research, gathering and analysis of data, interpretation of results, drawing conclusions, and writing papers appropriate for publication. Didactic, clinical and Lab. *Mode of delivery: Didactic, clinical and Lab. Offered: Spring. Instructor of Record: Sidney Stein (Spring).*
- PERI 741 Topical Literature Review Seminar III** *Credit: 4 (64-0)* This seminar is conducted weekly throughout the first two years of the residency program under the direction of the postgraduate periodontics staff. The purpose of this seminar series is exposure to classic and current concepts in various subject areas, as well as written and verbal evaluation of the literature reviewed. *Mode of delivery: Seminar. Offered: Fall. Instructor of Record: Rania Livada (Fall).*
- PERI 742 Topical Literature Review Seminar IV** *Credit: 4 (64-0)* This seminar is conducted weekly throughout the first two years of the residency program under the direction of the postgraduate periodontics staff. The purpose of this seminar series is exposure to classic and current concepts in various subject areas, as well as written and verbal evaluation of the literature reviewed. *Mode of delivery: Seminar. Offered: Spring. Instructor of Record: Rania Livada (Spring).*
- PERI 743 Review of Current Periodontal Literature Seminar III** *Credit: 2 (32-0)* This seminar series is conducted weekly throughout the three year residency period. Four of the major journals devoted to periodontics are reviewed selectively. Selected articles are also reviewed from other major journals. The purpose of this seminar is to provide experience in reading, abstracting, and evaluating the most recently published ideas and concepts in the field of periodontal biology. *Mode of delivery: Seminar. Offered: Fall. Instructor of Record: Swati Rawal (Fall).*
- PERI 744 Review of Current Periodontal Literature Seminar IV** *Credit: 2 (32-0)* This seminar series is conducted weekly throughout the three year residency period. Four of the major journals devoted to periodontics are reviewed selectively. Selected articles are also reviewed from other major journals. The purpose of this seminar is to provide experience in reading, abstracting, and evaluating the most recently published ideas and concepts in the field of periodontal biology. *Mode of delivery: Seminar. Offered: Spring. Instructor of Record: Swati Rawal (Spring).*

- PERI 814 Research in Periodontal Pathobiology V** *Credit: 4 (0-128)* This course will provide each third-year student with a continuing opportunity to engage in periodontally related research for 8 hours per week during the It may include both clinical and laboratory research. Each student will be assigned a research mentor who is trained and experienced in research methodologies and writing of scientific papers. Instruction will be given by appropriate Faculty members on an individualized basis. Student activities will include research of relevant literature, writing of appropriate literature reviews, hands-on research, gathering and analysis of data, interpretation of results, drawing conclusions, and writing papers appropriate for publication. Additionally, this research will be described in a thesis submitted in partial fulfillment of a Master of Dental Science degree. *Mode of delivery:* Research based. *Offered:* Fall.
- PERI 815 Research in Periodontal Pathobiology VI** *Credit: 4 (0-128)* This course will provide each third-year student with a continuing opportunity to engage in periodontally related research for 8 hours per week during the It may include both clinical and laboratory research. Each student will be assigned a research mentor who is trained and experienced in research methodologies and writing of scientific papers. Instruction will be given by appropriate Faculty members on an individualized basis. Student activities will include research of relevant literature, writing of appropriate literature reviews, hands-on research, gathering and analysis of data, interpretation of results, drawing conclusions, and writing papers appropriate for publication. Additionally, this research will be described in a thesis submitted in partial fulfillment of a Master of Dental Science degree. *Mode of delivery:* Research based. *Offered:* Fall, Spring. *Instructor of Record:* Sidney Stein (*Spring*).
- PERI 843 Review of Current Periodontal Literature Seminar V** *Credit: 2 (32-0)* This seminar series is conducted weekly throughout the three year residency period. Four of the major journals devoted to periodontics are reviewed selectively. Selected articles are also reviewed from other major journals. The purpose of this seminar is to provide experience in reading, abstracting, and evaluating the most recently published ideas and concepts in the field of periodontal biology. *Mode of delivery:* Seminar. *Offered:* Fall.
- PERI 844 Review of Current Periodontal Literature Seminar VI** *Credit: 2 (32-0)* This seminar series is conducted weekly throughout the three year residency period. Four of the major journals devoted to periodontics are reviewed selectively. Selected articles are also reviewed from other major journals. The purpose of this seminar is to provide experience in reading, abstracting, and evaluating the most recently published ideas and concepts in the field of periodontal biology. *Mode of delivery:* Seminar. *Offered:* Spring. *Instructor of Record:* Swati Rawal (*Spring*).

Prosthodontics

- PROS 710 Prosthodontic Literature Seminar** *Credit: 3 (48-0)* This weekly seminar provides exposure to historically relevant, scientific literature in various subject areas associated with prosthodontics and related sciences. Periodic and critical abstracting of this literature is accomplished by seminar attendees in order to maintain a database of condensed, topic-oriented summaries. Students in the Advanced Prosthodontic Program participate in this seminar each term of their three-year residency. Twenty-four broad topics pertinent to prosthodontics are covered on a rotational basis over a three-year period. Eight topics are covered during each year of the students' three-year residency program. Seminars are led by the director of the Advanced Prosthodontic Program. Other members of the University of Tennessee Health Science Center Faculty are invited to participate when their expertise with regard to the seminar topic is considered beneficial to the learning experience. *Mode of delivery:* Didactic and Seminar. *Offered:* Fall, Spring. *Instructor of Record:* Greg Paprocki (*Fall*); Greg Paprocki (*Spring*).

- PROS 711 Contemporary Evidence-Based Journal Club** *Credit: 2 (32-0)* Ongoing review of current, pertinent, professional literature is fundamental to the successful practice of prosthodontics. For postdoctoral students, knowledge of current professional literature is essential to developing theoretical and practical patient management skills. The assessment of current literature for its evidence-based value is critical. Journal Club provides a mechanism for surveying major dental periodicals to identify important articles, reviewing those articles, and discussing each article in an open seminar format. Twice weekly, one-hour seminars are conducted throughout the three-year program. This schedule is necessary to stay abreast of the ever-expanding volume of prosthodontic literature. *Mode of delivery: Seminar. Offered: Fall, Spring. Instructor of Record: David Cagna (Fall); David Cagna (Spring).*
- PROS 714 Biomechanics and Biomaterials Seminar** *Credit: 2 (32-0)* The purpose of this course is to gain experience in the critical reading and evaluation of the biomaterials literature. Students will learn basic biomechanical and biomaterial concepts and research techniques, while practicing critical evaluations of the dental literature using selected publications relevant to dentistry and research methodology. After completion of this course, a student should be able to successfully evaluate scientific investigations of dental materials and translate this knowledge to their clinical training with the ultimate goal of improving patient treatment and care. *Mode of delivery: Seminar. Offered: Spring.*
- PROS 800 Master's Thesis and Research** *Credit: 1-9* This course provides opportunity for students to engage in research in prosthodontics and related sciences. Though involvement is arranged to suit individual needs, time commitment will be approximately 4 hours per week during each term of the program. Students work with advisors experienced in research methodologies and scientific writing. Instruction is given by appropriate faculty on individual bases. Student activities include library research, writing a literature review, developing a research protocol, hands-on research, gathering and analyzing data, interpreting experimental results, developing conclusions, and publishing outcomes. Public defense of the research effort and publication of a thesis in accordance with regulations established by the College of Graduate Health Sciences are required. Research, public defense, and thesis accomplished during this course are in partial fulfillment of the requirements for the Master of Dental Science degree award by the UTHSC College of Graduate Health Sciences. *Mode of delivery: Seminar and lab Hybrid. Offered: Fall, Spring. Instructor of Record: David Cagna (Fall); Thesis Supervisor (Spring).*

Epidemiology

- BIOE 718 Program Evaluation for Public Health** *Credit: 3 (48-0)* This course will teach basic public health skills necessary to evaluate a community health program. The course will focus on the overviews of community evaluation approaches and their direct application to efforts within health department settings. Evaluation planning, design, determining evaluation questions, goals and program outcomes will constitute the primary content of this course. Process evaluation as well as impact/outcome evaluation will be covered. Course content will introduce both qualitative and quantitative methods of data collection and analysis. The course will apply practical examples of potential problems typically encountered in the community health evaluation process as well as potential solutions. The course will be evaluated by participation in weekly discussion boards, mid-term exams, weekly homework assignments, and the creation of a public health program evaluation plan. *Mode of delivery: Didactic Online. Pre-Requisites: Permission of the instructor Offered: Offered as needed.*
- BIOE 719 Concepts of Health Systems and Policy, Part I** *Credit: 1* This course will provide an introduction to basic concepts of health systems functions and health policy. Topics for this course include the basic structural and functional characteristics of health care systems, the features and rationale for health- related public policy, the determinants of healthcare use, and methods to assess the functions of a health care system. *Mode of delivery: Didactic Online. Offered: (not currently offered).*

- BIOE 720 Biostatistics for Public Health** *Credit: 3 (48-0)* This course provides an introduction to the use of statistical techniques in biomedical and public health research. The course will cover common descriptive statistics including the mean, median, and standard deviation as well as techniques for testing hypotheses (analysis of variance, t-tests, regression, nonparametric methods) and issues in sampling and design of experiments. The class will be taught using online methods for students in the Certificate in Clinical Research program. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Admission into Certificate in Clinical Research Program, or permission of the director of the Certificate in Clinical Research program *Offered:* Fall. *Instructor of Record:* Quynh Tran (Fall).
- BIOE 722 Principles of Epidemiology for Public Health Workforce Professionals** *Credit: 3 (48-0)* The course introduces the basic principles and methods of epidemiology and demonstrates their applicability in the field of public health. Topics to be covered include the historical perspective of epidemiology, measures of disease occurrence and of association, clinical epidemiology, disease screening, causal inference, and study design. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Permission of the instructor *Offered:* (not currently offered).
- BIOE 723 Overview of Public Health** *Credit: 3 (48-0)* This course provides an introduction to public health concepts and practice by examining the philosophy, purpose, history, organization, functions, tools, activities, and results of public health practice at the national, state, and community levels. The course also addresses important health issues and problems facing the public health system. Case studies and a variety of practice-related exercises serve as a basis for learner participation in real world public health problem- solving simulations. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Permission of the instructor *Offered:* (not currently offered).
- BIOE 724 Environmental Epidemiology/Occupational Epidemiology** *Credit: 3 (48-0)* This course introduces students to epidemiologic investigations of environmental health problems. Topics include both traditional and innovative subjects and strategies, such as the health effects associated with air and water contaminants, toxic waste sites, lead, and radiation, as well as environmental exposures that have received attention only recently, such as Agent Orange and electromagnetic fields. The course emphasizes epidemiologic methods, particularly exposure assessment, modeling, cluster analysis, and source of bias. Students gain experience in the critical review and design of related epidemiologic studies. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Permission of the instructor *Offered:* (not currently offered).
- BIOE 725 Statistical Software for the Health Professional** *Credit: 3 (48-0)* Multiple computer software packages will be examined for their utility in health data analysis. Sample health data sets are analyzed using similar procedures from different packages. Strengths and weaknesses of the various packages are contrasted as they are applied to the needs of health data analysis. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Permission of the instructor *Offered:* (not currently offered).
- BIOE 726 Advanced Epidemiology for Public Health Workforce Professionals** *Credit: 3 (48-0)* The purpose of this course is to further develop the methodological concepts underlying the science of epidemiology. The material covered is intended to broaden and extend the student's understanding of the elements of study design, data analysis, and inference in epidemiologic research, including issues related to causation, bias, and confounding. The primary aims of the course are to provide a working knowledge of the fundamentals of epidemiology as well as to serve as a foundation for more advanced study of epidemiologic methods with a strong emphasis on quantitative aspects. The course consists of online lectures and laboratories using statistical software. The workshop sessions are designed to reinforce the concepts/topics covered in the lectures. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* Permission of the instructor *Offered:* (not currently offered).

- BIOE 727 Principles of Epidemiology** *Credit: 3 (48-0)* This online course, which is part of the Certificate in Clinical Research Program, introduces the basic principles and methods of epidemiology and demonstrates their applicability in the fields of public health and clinical research. Topics to be covered include the historical perspective of epidemiology, measures of disease occurrence and association, study design, disease screening, and causal inference. Study design content will cover experimental, cohort and case-control studies as well as challenges in design and analysis including bias, confounding and random error. Students will be expected to participate in discussion boards, complete weekly homework assignments, and take a mid-term and final exam. *Mode of delivery:* Didactic Online. *Pre-Requisites:* This is an online course for students in the Certificate in Clinical Research program. Students should be enrolled in the Certificate program before taking this course, or obtain permission of the program director in the Certificate of Clinical Research program. *Offered:* Spring. *Instructor of Record:* Pam Connor (Spring).
- BIOE 730 Practicum in Public Health Leadership** *Credit: 3 (48-0)* This course provides an opportunity for students to experience the practice of public health leadership in a real world setting and to apply the knowledge and skills developed in other Leadership Certificate courses to real public health leadership challenges under the preceptorship of an experienced public health leader. Students are assigned to a senior leader in a local, metropolitan, regional or state-level Department of Health and complete a project negotiated among the student, the Preceptor and the Course Director. Students will be expected to submit a report detailing the project as well as journal describing the activities undertaken during the course. These tasks will be supplemented by assigned readings and periodic conference calls with other students, Preceptors and Faculty. *Mode of delivery:* Didactic Online. *Pre-Requisites:* BIOE 714 Special Topic: Public Health Leadership, BIOE 717 Public Health Policy and Law, BIOE 718 Program Evaluation for Public Health, BIOE 723 Overview of Public Health, or permission of the Course Director *Offered:* (not currently offered).
- BIOE 740 Ethical and Legal Issues in Clinical Research** *Credit: 3 (48-0)* This course will examine ethical and legal principles and issues in clinical research, including attention to topics such as the Nuremberg Code, Belmont Report, federal standards for protection of human subjects, FDA guidelines for drug and device development, good clinical practice standards, and how these guidelines may be applied to the development, conduct, and reporting of clinical research. *Mode of delivery:* Didactic Online. *Pre-Requisites:* This is an online course for students in the Certificate in Clinical Research program. Students should be enrolled in the Certificate program before taking this course, or obtain permission of program director in the Certificate in Clinical Research program *Offered:* Spring. *Instructor of Record:* Terrence Ackerman (Spring).
- BIOE 750 Fundamentals of Clinical Investigation** *Credit: 3 (48-0)* This course will present an introduction to the different types of clinical research and practical methods that investigators can use in the conduct of multidisciplinary clinical research. Observational cohort studies, case-control studies, and Phase I-IV intervention-based randomized controlled clinical trials will be presented. Design distinctions, sampling and randomization procedures, data integrity, data-analysis concerns, and practical conduct for these investigative approaches will be examined. This course will also review ethical issues in conducting research in people, federal guidance for the conduct of clinical research, and the dynamic influence of behavior on the conduct of clinical research particularly in regards to recruitment, retention, and adherence in clinical trials. *Mode of delivery:* Didactic Online. *Pre-Requisites:* Admission into Certificate of Clinical Research program or permission of the program director *Offered:* Fall. *Instructor of Record:* Mace Coday (Fall).
- BIOE 800 Master's Thesis and Research** *Credit: 1-9* Research performed under the direction and supervision of the respective student's Research Advisor, in partial fulfillment of the requirements for the degree of Master of Science. *Mode of delivery:* Research based. *Offered:* Fall, Spring. *Instructor of Record:* Pam Connor (Fall); Pam Connor (Spring).

- BIOE 804 Master's Project** *Credit: 1-6* Independent study in a community-health topic selected in conjunction with project advisor. Oral and written reports required, including oral presentation and defense of project. Course enrollment is restricted to those students in the Community Health track with project option for the MS in Epidemiology. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of the project advisor *Offered:* Fall, Spring. *Instructor of Record:* Pam Connor (Fall); Pam Connor (Spring).
- BIOE 810 Independent Study** *Credit: 1-3* An in-depth study of some aspect of epidemiology in which the student has special interest. Study is done independently with Faculty approval and supervision. *Mode of delivery:* Research based. *Pre-Requisites:* Permission of instructor May be repeated *Offered:* Fall, Spring. *Instructor of Record:* Pam Connor (Fall); Pam Connor (Spring).
- BIOE 811 Biostatistics for the Health Sciences I** *Credit: 3 (48-0)* The first term material includes descriptive statistics, estimation, and one and two sample hypothesis testing, including paired and unpaired situations. Instruction includes assisting the student attain mastery-level skill in data entry and use of SAS software system for statistical analysis of data on the UT VAX. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Elizabeth Tolley (Fall).
- BIOE 812 Fundamentals of Epidemiology** *Credit: 3 (48-0)* The course introduces the basic principles and methods of epidemiology and demonstrates their applicability in the field of public health. Topics to be covered include the historical perspective of epidemiology, measures of disease occurrence and of association, clinical epidemiology, disease screening, causal inference, and study design. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Simonne Nouer (Fall).
- BIOE 813 Fundamentals of SAS for Epidemiology** *Credit: 3 (48-0)* This course provides the foundation computing skills for independent analysis of epidemiologic data. Topics to be covered include an introduction to SAS as a research tool; Operating with SAS for Windows environment; Reading internal and external data into SAS; Working with variables and SAS functions; Using logical statements; Introducing SAS procedures - especially those that produce descriptive statistics; Performing simple inferential tests and power analysis; combining datasets; Reshaping data; and Introducing macro language. This course consists of 2 hour lecture and 1 hour laboratory session per week. *Mode of delivery:* Didactic and lab. *Offered:* Fall. *Instructor of Record:* Jim Wan (Fall).
- BIOE 814 Health Behavior Theory and Intervention Design** *Credit: 3 (48-0)* Understanding health behavior and community approaches to health promotion is vital to designing public health interventions to reduce behavioral risk factors and to increase health care utilization. This course provides students the opportunity to learn major theories of individual behavior such as reasoned action, health belief models, and social learning, as well as community approaches such as media advocacy, social marketing, and community organization and to apply these theories to designing community interventions. *Mode of delivery:* Didactic. *Offered:* Offered as needed. *Instructor of Record:* Maggie DeBon (Spring).
- BIOE 815 Introduction to Public Health and Preventive Medicine** *Credit: 3 (48-0)* The course introduces students to the identification, understanding, and application of preventive and public health approaches to the wide range of infectious diseases and chronic disease epidemics. Methods to conduct an outbreak investigation will be included in the course. The infectious disease epidemics used as examples will be AIDS and TB. Chronic diseases will mainly focus on cardiovascular disease and methods to assist students in understanding the causal pathways from behavior to morbidity. Students will develop research proposals for identifying, understanding, and intervening on public health problems that are common in urban America. These written proposals, as well as midterm and final written exams, will prepare the students for Master's thesis and research. *Mode of delivery:* Didactic. *Pre-Requisites:* BIOE 811, Biostatistics for the Health Sciences I; BIOE 812, Fundamentals of Epidemiology *Offered:* Offered as needed. *Instructor of Record:* Phyllis Richey (Fall).

- BIOE 818 Mixed Linear Models in Epidemiology** *Credit: 3 (48-0)* This course provides the advanced skills necessary for independent statistical analysis of epidemiologic and clinical data containing clustered observations and random effects. Topics to be covered include unrestricted and restricted maximum likelihood estimation, Akaike's information criterion, standard general linear models, linear random effects models, linear covariance pattern models, and linear random coefficient models. The course focuses on applications requiring flexible modeling of variance and covariance structures for clustered data when observations from a common cluster are correlated. The approaches covered in the course are particularly relevant for analysis of hierarchical and longitudinal data having Gaussian distributed error. *Mode of delivery:* Didactic. *Pre-Requisites:* BIOE 821, Biostatistics for the Health Sciences II; BIOE 822, Advanced Epidemiology; instructor's consent *Offered:* Offered as needed.
- BIOE 819 Master's Seminar: Survival and Self-Reliance in the Computer Age** *Credit: 1 (12-8)* This seminar is designed to expose students to a wide variety of topics of professional relevance including discussions on current work in the field, presentations on specific topic areas within epidemiology, the use of tools important to epidemiologic research, and presentations of on-going master's research. *Mode of delivery:* Lab Hybrid. *Offered:* Offered as needed. *Instructor of Record:* Elizabeth Tolley (Fall); Elizabeth Tolley (Spring).
- BIOE 820 Master's Seminar: Clinical Research in Special Populations** *Credit: 1 (16-0)* Pass/Fail This course will expose students to issues pertaining to clinical research in special populations including children, pregnant women, normal healthy subjects, and groups that may include international participants. Existing federal and international guidelines and the medical literature will be used in this course. Course grading will be pass/fail. Seminar. *Mode of delivery:* Seminar. *Offered:* Offered as needed.
- BIOE 821 Biostatistics for the Health Sciences II** *Credit: 3 (48-0)* Second term content pertains to methods of regression for observational and experimental data. Methods of analysis and hypothesis testing for three or more treatments are presented for various experimental designs and treatment combinations for normally distributed and ordinal data. Instruction includes helping the students attain mastery-level skill in programming with the SAS software system for statistical analysis of data on the UT VAX. Hybrid Didactic. *Mode of delivery:* Didactic Hybrid. *Offered:* Spring. *Instructor of Record:* Elizabeth Tolley (Spring).
- BIOE 822 Advanced Epidemiology** *Credit: 4 (64-0)* This course provides the foundation skills for independent analysis of epidemiologic data. Topics to be covered include the analysis of vital statistics data, statistical analysis of simple epidemiologic measures, identification and control of confounding in epidemiologic data, model building using epidemiologic data, logistic regression, and proportional hazards modeling. At the end of the term, students will be able to analyze data from matched and unmatched case-control studies, case-cohort studies, and traditional cohort designs. The course includes a mandatory statistical computing laboratory. *Mode of delivery:* Didactic. *Pre-Requisites:* BIOE 811, Biostatistics for the Health Sciences I; BIOE 812, Fundamentals of Epidemiology *Offered:* Spring. *Instructor of Record:* Simonne Nouer (Spring).
- BIOE 823 Randomized Clinical Trials** *Credit: 3 (48-0)* This course will allow the student to understand and analyze the many critical facets of the most precise design for clinical studies in humans: randomized clinical trials. Using a case-based approach, students will learn the importance of precise hypothesis description, selection of an at risk cohort for study, and the power of randomization in helping balance the study groups on a number of known and unknown confounding factors. Important issues with regard to subject recruitment, patient management, and data quality control will be emphasized. Students will learn to perform their own sample size calculations and use actual statistical packages to outline real clinical trial results data. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* BIOE 811, Biostatistics for the Health Sciences I; BIOE 812, Fundamentals of Epidemiology *Offered:* Offered as needed. *Instructor of Record:* Mace Coday (Spring).

- BIOE 824 Genetic Epidemiology: Methods and Applications** *Credit: 3 (48-0)* This course provides the concepts and methods of genetic epidemiology that are relevant to studying the causes of complex human diseases and the impact of human genetic variation on disease prevention and treatment. The course includes methods of population- and family-based studies of genotype-phenotype associations; statistical techniques related to segregation analysis; linkage analysis and transmission disequilibrium test (TDT); approaches for assessing gene-gene and/or gene-environment interaction; and procedures for evaluating ethical, legal, and social issues, and public health implications of research and interventions. Emphasis is placed on distinguishing the appropriate applications, underlying assumptions, and reasonable interpretations of the methods presented. *Mode of delivery: Didactic. Offered: Spring. Instructor of Record: Khyobeni Mozhui (Spring).*
- BIOE 829 Introduction to GIS for Use with Health-Related Data** *Credit: 1 (16-0)* This course will introduce basic concepts and use of Geographic Information Systems (GIS) tools for working with data that can be spatially or geographically referenced. GIS are computerized systems for compiling, managing, analyzing, and mapping data linked to locations. This course will focus on the practical application of basic GIS software tools to work with health-related data. The course will include readings and discussions followed by hands-on exercises using GIS software. Because this course will be taught in a lab where instruction is integrated with hands-on exercises and participants' interaction in the lab, class size is limited to 12 students. Students will be expected to bring their own laptop computers for use in the lab. Computer Requirements are as follows: PC's only; Operating System support includes Windows 2000 – XP, Vista; CPU speed 1.6 GHz or higher; Processor Intel core Duo, Pentium 4 or Xeon Processor; Memory/Ram: 1 GB minimum; Disk Space 2.4 GB. Macintosh not supported. *Mode of delivery: Lab. Pre-Requisites: Instructor's consent Offered: Fall. Instructor of Record: Simonne Nouer (Fall).*
- BIOE 834 Epidemiology of Childhood Diseases** *Credit: 1 (16-0)* This course will provide an overview of the epidemiology of selected conditions and diseases affecting children as well as demonstrate the childhood origins of some adult chronic disease. For most of these conditions, information about the pattern of occurrence, data about risk factors and effectiveness of various preventive or therapeutic interventions will be discussed. Public use sources of information such as the National Health and Examination Survey (NHANES), National Ambulatory Medical Care Survey (NAMCS), CDC "Pink Book", Child and Adolescent Health Measurement Initiative (CAHMI) and Youth Risk Behavior Surveillance System (YRBSS) will be introduced and discussed. Additionally, some of the unique and challenging aspects of research in pediatric epidemiology such as issues of childhood growth and development, maternal (intrauterine) origins of disease and parental role in disease diagnosis and treatment will be introduced. In the last weeks of the course, students will be asked to synthesize the information presented in the course by identifying, presenting and evaluating the available epidemiological information on a childhood disease or condition of their choice. *Mode of delivery: Didactic. Pre-Requisites: BIOE 812, Fundamentals of Epidemiology or by permission of instructor Offered: Fall. Instructor of Record: Marion Hare (Spring).*
- BIOE 835 Resampling Methods for Biostatistical Analysis Using R Software** *Credit: 1 (16-0)* This course provides essential skills for independent statistical analysis of epidemiologic and clinical data using permutation and bootstrap procedures. Course topics will incorporate introduction to permutation and rearrangement methods, Monte Carlo procedures for discrete and continuous distributions, percentile and parametric bootstrap, bias-corrected nonparametric bootstrap and an introduction to the R environment. The methods covered in the course are particularly relevant for data for which analyses based upon asymptotic statistics are not readily available or are of questionable validity. *Mode of delivery: Didactic. Pre-Requisites: BIOE 811, Biostatistics for the Health Sciences I; Consent of instructor Offered: Offered as needed.*
- BIOE 840 Section 001 Special Topics - Independent Study** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery: Didactic. Pre-Requisites: Permission of instructor Offered: Fall, Spring. Instructor of Record: Pam Connor (Spring).*

- BIOE 840 Section 002 Special Topics - NIH Grant Writing in the Behavioral Sciences** *Credit: 3 (48-0)* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Fall, Spring.
- BIOE 840 Section 003 Special Topics - Fundamentals of Molecular Genetics for Clinical Research** *Credit: 3 (48-0)* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Fall, Spring. *Instructor of Record:* Pam Connor (Fall).
- BIOE 840 Section 004 Special Topics - Bayesian Approaches in Biostatistics.** *Credit: 3 (48-0)* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Fall, Spring.
- BIOE 840 Section 005 Special Topics - Application of Statistical Methods Using R Software** *Credit: 3 (48-0)* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Fall, Spring.
- BIOE 840 Section 006 Special Topics - Recruitment and Retention of Ethnic Minority Participants in Research** *Credit: 3 (48-0)* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Fall, Spring.
- BIOE 840 Section 007 Special Topics - Informatics Design for Clinical and Community Interventions** *Credit: 3 (48-0)* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Fall, Spring. *Instructor of Record:* Pam Connor (Spring).
- BIOE 840 Section 008 Special Topics - SPSS Software Use in Medical Research** *Credit: 1 (16-0)* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Fall, Spring.
- BIOE 841 Application of Statistical Methods Using R Software** *Credit: 3 (48-0)* This course fosters statistical literacy and practical application of statistical principles by equipping students with the necessary skills in R programming to tailor a perceived statistical analysis to a particular research question. The course is delivered in a computer lab where instructional elements are interlaced with hands-on programming exercises and classroom discussions about the aims of particular scientific and statistical analyses. Course topics include production of publication-quality statistical graphics, permutation testing, resampling methods (bootstrap estimation), sequential testing of statistical hypotheses, learning from data, and aspects of planning a clinical trial (including Bayesian design ideas). Built around a number of statistical questions frequently arising in epidemiology and clinical research, the course introduces the necessary programming techniques to implement gained conceptual insights in R. R is a software environment for statistical computing and graphics and is easily extendable and customizable to the user's actual analysis needs. Upon successful completion of the course, students will be able to address a number of research situations in which statistical analysis by conventional means is intractable. Enrollment limited to eight students. *Mode of delivery:* Didactic. *Pre-Requisites:* BIOE 811 Biostatistics for the Health Sciences I; permission of instructor *Offered:* Offered as needed.

- BIOE 842 Applied Survival Analysis** *Credit: 3 (48-0)* Survival analysis refers to the statistical approach to analyze the occurrence and timing of events. Students will gain familiarity with the characteristics of time-to-event data such as the presence of censoring and time-varying covariates, and will learn to master the necessary statistical methods and techniques to design and analyze studies with survival data, including the construction and interpretation of Kaplan-Meier estimates, the Cox proportional hazards model, and methods for life table analysis. This course also extends the standard Cox model by introducing time-varying covariates and stratification as a way of dealing with non-proportionality of hazards. The course utilizes the software SAS and especially its PROC LIFETEST and PROC PHREG functions. This course is taught in a SAS computer lab with hands-on exercises. Enrollment is limited to eight students. *Mode of delivery:* Didactic. *Pre-Requisites:* BIOE 811, Biostatistics for the Health Sciences I; BIOE 813, Fundamentals of SAS for Epidemiology; BIOE 821, Biostatistics for the Health Sciences II; permission of instructor *Offered:* Offered as needed. *Instructor of Record:* Fridtjof Thomas (Fall).
- BIOE 843 Healthcare Epidemiology** *Credit: 2 (32-0)* This course provides the concepts and methods of a focused application of epidemiology in healthcare settings. It also presents different methods of infection transmission and control, development of surveillance programs, and identification, investigation and control of outbreaks. Employee and patient safety practices and regulations will also be learned. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of instructor *Offered:* Offered as needed.
- BIOE 844 Introduction to Health Policy: Health Policy and Health Research** *Credit: 3 (48-0)* This interdisciplinary course is designed to provide graduate students in any health-related program with a comprehensive overview of the interactions between basic science and clinical research and health-related public policy. Health policy has a tremendous impact on the direction and execution of health-related research. In addition, research findings can have a substantial impact on public policies that impact health care and health-related research. The case-based topics of the course will focus on examining how public policy can impact research, how investigators can demonstrate the value of research to policy makers, and how research results may be applied to promote meaningful health-related public policies. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of the instructor *Offered:* (not currently offered).
- BIOE 845 Biostatistics for Integrated Biomedical Sciences** *Credit: 2 (32-0)* This course provides a basic introduction to the use of statistical techniques in biomedical research. The course will cover common descriptive statistics including the mean, median, and standard deviation, inferential statistics, and techniques for testing hypotheses, and will emphasize application of these concepts to case studies. This is an online course designed specifically for students enrolled in the Integrated Biomedical Sciences (IBS) program, but is open to other students given permission from the course director. *Mode of delivery:* Didactic Online. *Pre-Requisites:* All non-Biomedical Sciences students require instructor permission to register for the course *Offered:* Fall. *Instructor of Record:* Quynh Tran (Fall).
- BIOE 846 Economics of Health and Health Care** *Credit: 3 (48-0)* This course provides an introduction to concepts and methods of health economics. Students will be introduced to a range of microeconomic tools, such as demand and cost theory, and learn how to apply these tools to healthcare issues and problems. The goal of this course is to better understand the economic aspects of health and healthcare so that institutions and policies can be better designed to meet the needs of the population. The primary focus of this course will be issues facing the US healthcare system, but the tools learned and the issues discussed will have international applicability. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* Permission of the Instructor. This course presumes reasonably strong math skills (Algebra); calculus is not required (but helpful) *Offered:* Fall.

- BIOE 847 Advanced SAS Programming** *Credit: 1 (0-32)* This course provides advanced programming techniques in SAS, SQL, and MACRO languages. The natural flow of the course is intended to start with an introduction to simple SQL programming using a single dataset followed by discussions on how to work with multiple datasets with common primary key variables. Upon completing the SQL component, a smooth transition is planned to simple MACRO programming in SAS, which will be gradually advanced to more efficient yet complicated MACRO programming. This class will be taught onsite in the SAS- laboratory in the Department of Preventive Medicine as the students will need SAS access for hands-on practice of exercises. *Mode of delivery:* Lab. *Pre-Requisites:* BIOE 813, Fundamentals of SAS for Epidemiology, or by permission of instructor *Offered:* Offered as needed. *Instructor of Record:* Mehmet Kocak (Spring).
- BIOE 862 Advanced Categorical Data Techniques** *Credit: 3 (48-0)* This course begins by examining the sampling models and the associated distributions that are most closely identified with categorical data. Next are reviewed the most common chi-square tests and measure of association for standard contingency tables or sets of stratified contingency tables. The generalized linear model is introduced as the backbone for building models that focus on the estimation of effects, model inference, and model checking. Specific topics for the modeling of categorical data include logistic regression for dichotomous and polytomous response, conditional logistic regression, generalized estimating equations, and generalized linear mixed modeling for models with random effects. In addition, the course will explore loglinear modeling for count data and life estimation and Cox proportional hazards model for categorized time to event data. The relation of the various approaches and procedures using SAS will be demonstrated. The course focuses on application of the above approaches to observational and clinical trial data sets. *Mode of delivery:* Didactic. *Pre-Requisites:* BIOE 812, Fundamentals of Epidemiology; BIOE 821, Biostatistics for the Health Sciences II *Offered:* Fall. *Instructor of Record:* Mehmet Kocak (Spring).

Health Outcomes and Policy Research

- HOPR 800 Master's Thesis and Research** *Credit: 1-9* Research performed under the direction and supervision of the respective student's advisor in partial fulfillment of the requirements for the degree of Master of Science. *Mode of delivery:* Research based. May be repeated up to 90 *Offered:* (not currently offered).
- HOPR 801 Research in Health Outcomes and Policy Research** *Credit: 3 (48-0)* This course emphasizes the development and conduct of health science administration research. The course is required in conjunction with or prior to thesis/dissertation work. The goal is to assist students in acquiring a breadth of knowledge of theory, concepts, principles, processes, and skills necessary for the health science research endeavor. Students will use and build upon knowledge gained in prerequisite courses as they learn to carry out each step of the research process. The course will be taught in small group discussions using information available in the literature and research-based analysis. *Mode of delivery:* Didactic. *Pre-Requisites:* BIOE 811, Biostatistics for the Health Sciences I; BIOE 812, Fundamentals of Epidemiology; permission of the instructor *Offered:* Fall.
- HOPR 810 Fundamentals of Health Care Systems and Policy** *Credit: 3 (48-0)* This course is designed to provide a comprehensive knowledge and understanding of the origin and functions of major themes in U.S. health care policy and health care delivery systems. Major topics include the assessment of population health, models of health care delivery, the current U.S. health care delivery and finance systems, and access and quality of care issues. The course will use a mix of Internet-based self-learning and classroom- based discussion groups. *Mode of delivery:* Didactic. *Offered:* Spring (not currently offered). *Instructor of Record:* Brandi E. Franklin (Spring).

- HOPR 812 Research Techniques in Pharmacoeconomics I** *Credit: 1-3* Minor projects in pharmacoeconomics for students whose interests and needs are not adequately met in other scheduled classes or in the masters or doctoral research program. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of the instructor May be repeated up to 6 *Offered:* as needed. *Instructor of Record:* Song Hee Hong (Fall).
- HOPR 816 Applied Pharmacoeconomics I** *Credit: 2 (32-0)* This is the second in a two-course sequence and must be taken in sequence. These two coupled courses are an advanced study in economic principles and outcomes measures as applied to pharmacy and health care. The objective is to expand the student's appreciation of the nature of applied economic evaluation and its relevance to health care decision- making and policy formulation through Didactics and case study analysis. Emphasis will be on the application of methodological principles of economic evaluation and appraisal of current concepts and research in pharmacoeconomics. The student will participate in the development, implementation, and evaluation of a group pharmacoeconomic project, which focuses on the evaluation of a defined economic problem in health care. *Mode of delivery:* Didactic. *Pre-Requisites:* HOPR 801, Research in Health Outcomes and Policy Research; HOPR 829, Data Analysis Methods in Health Outcomes and Policy Research; BIOE 812, Fundamentals of Epidemiology; and BIOE 821, Biostatistics for the Health Sciences II *Offered:* Fall. *Instructor of Record:* Junling Wang (Spring).
- HOPR 825 Strategies for Health Policy Formulation and Planning** *Credit: 3 (48-0)* This course focuses on the development of health care policy, issues which impact the formulation of health care policy, and the planning process. The objective is to enhance the student's appreciation of the decision process in formulating health policy, the relationship of health policy development and health financing, the evaluation of current local, state, and national policy as related to health care. The student will evaluate current policy and develop alternatives to current policy. *Mode of delivery:* Didactic. *Pre-Requisites:* BIOE 812, Fundamentals of Epidemiology *Offered:* Fall.
- HOPR 827 Applied Pharmacoeconomics II** *Credit: 2 (32-0)* This is the second in a two-course sequence and must be taken in sequence. These two coupled courses are an advanced study in economic principles and outcomes measures as applied to pharmacy and health care. The objective is to expand the student's appreciation of the nature of applied economic evaluation and its relevance to health care decision- making and policy formulation through Didactics and case study analysis. Emphasis will be on the application of methodological principles of economic evaluation and appraisal of current concepts and research in pharmacoeconomics. The student will participate in the development, implementation, and evaluation of a group pharmacoeconomic project, which focuses on the evaluation of a defined economic problem in health care. *Mode of delivery:* Didactic and computer Lab-based. *Pre-Requisites:* HOPR 801, Research in Health Outcomes and Policy Research; HOPR 829, Data Analysis Methods in Health Outcomes and Policy Research; BIOE 812, Fundamentals of Epidemiology; and BIOE 821, Biostatistics for the Health Sciences II *Offered:* Spring.
- HOPR 829 Data Analysis Methods in Health Outcomes and Policy Research** *Credit: 3 (48-0)* Building upon the first research methods course (HOPR 801), this course seeks to help students lay a solid foundation in their understanding of basic data analysis methods, develop basic quantitative analytical skills, understand the application of basic data analysis methods, and develop a healthy skepticism toward the use of statistical techniques in research studies. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of the instructor *Offered:* Fall.
- HOPR 840 Section 001 Special Topics - Pharmacoeconomics** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Research based. *Offered:* Fall, Spring. *Instructor of Record:* Shelley White-Means (Spring).

- HOPR 840 Section 002 Special Topics - Health Policy** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Research based. *Offered:* Fall, Spring.
- HOPR 840 Section 003 Special Topics -Humanistic Outcomes** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Research based. *Offered:* Fall, Spring.
- HOPR 840 Section 004 Special Topics - Medication Management System** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Research based. *Offered:* Fall, Spring.
- HOPR 840 Section 005 Special Topics - Research Methods** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Research based. *Offered:* Fall, Spring.
- HOPR 840 Section 006 Special Topics - Technology Assessment** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Research based. *Offered:* Fall, Spring.
- HOPR 840 Section 007 Special Topics - Health Services Research** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Research based. *Offered:* Fall, Spring.
- HOPR 850 Leadership Effectiveness in Health Care** *Credit: 2 (32-0)* This course focuses on identifying leadership traits; attributes of leaders; differences between leadership and management; identifying each student's leadership style; small-group dynamics; and examining the literature of leadership. The course meets weekly for 2 hours in a seminar discussion. Students will evaluate leadership case studies in health care, as well as the current literature of leadership. Self-assessment tools will be used to identify leadership preferences. Students will review and discuss empirically based studies from the leadership literature during each session. *Mode of delivery:* Didactic. *Pre-Requisites:* Permission of the instructor *Offered:* Fall, Spring every other year (not currently offered). *Instructor of Record:* None – not currently offered (*Spring*).
- HOPR 878 Advanced Health Economics** *Credit: 3 (48-0)* Microeconomics tools are applied to the study of key health care policy issues. Behavior and performance of the major health care institutions, hospitals, physicians, nursing homes, and the pharmaceutical industry are examined. Economic impacts and implications of key issues in health care are scrutinized. *Mode of delivery:* Didactic. *Pre-Requisites:* A working knowledge of basic microeconomics tools is required *Offered:* Spring. *Instructor of Record:* Shelley White-Means (*Spring*).
- HOPR 879 Pharmacoeconomics I** *Credit: 3 (48-0)* This course is designed to provide students with the basic concepts and language of pharmacoeconomics. The course is divided into three sections. The first, Concepts of Pharmacoeconomics, introduces the principles, techniques, and methods of economic and humanistic outcomes assessment. The second, Assessment of Economic Outcomes, details the methodology of pharmacoeconomics. Specifically, it covers economic outcome evaluation techniques, with pertinent examples and problem exercises. Third, Assessment of Humanistic Outcomes, covers the methodologies for patient-based assessment, such as quality of life and patient satisfaction. other year. *Mode of delivery:* Didactic. *Offered:* Spring.
- HOPR 880 Health Systems Pharmacy Management I** *Credit: 3* This course is designed with emphasis in health systems pharmacy management. This course is the first in a two-term sequence. The objective of this course is to provide the student with an in-depth knowledge of the concepts, principles, processes, skills, and systems necessary for the leadership and management of a contemporary health system pharmacy practice. The course will be taught in small-group discussion using information available in the literature and case-based analysis. *Mode of delivery:* Seminar. *Offered:* Spring.

- HOPR 890 Health Systems Pharmacy Management II** Credit: 3 This course is designed with emphasis in health systems pharmacy management. This course is the second in a two-term sequence. The objective of this course is to provide the student with an in-depth knowledge of the concepts, principles, processes, skills, and systems necessary for the leadership and management of a contemporary health system pharmacy practice. The course will be taught in small-group discussion using information available in the literature and case-based analysis. Mode of delivery: Seminar. Offered: Fall.
- HOPR 900 Doctoral Dissertation and Research** Credit: 1-9 Research performed under the direction and supervision of the respective student's Research Advisor in partial fulfillment of the requirements for the degree of Doctor of Philosophy. Mode of delivery: Research based. Offered: Fall, Spring. Instructor of Record: James E Bailey (Fall); James E Bailey (Spring).
- HOPR 919 Seminar** Credit: 1 (16-0) Topics of current interest in the field are selected and reviewed by the students for their peers and Faculty. Presentations followed by general informal discussion. In certain circumstances, reports of current research may be made by students and Faculty. Mode of delivery: Research based. Offered: Fall, Spring. Instructor of Record: Junling Wang (Fall); Junling Wang (Spring).

Microbiology, Immunology and Biochemistry

- MSCI 612 Elements of Microbiology** Credit: 5 (80-0) A course on the fundamental aspects of microbial growth, nutrition, and genetics; mechanisms of infection and resistance; and a survey of disease-producing microorganisms with emphasis on those associated with the oral cavity. *Mode of delivery:* Didactic. *Offered:* Fall.
- MSCI 800 Master's Thesis and Research** Credit: 1-9 Research performed under the direction and supervision of the respective student's advisor, in partial fulfillment of the requirements for the degree of Master of Science. Research based. *Mode of delivery:* Research based. May be repeated *Offered:* Offered every year.
- MSCI 812 Physical Biochemistry and Applications in Structural Biology** Credit: 3 (48-0) A Lecture in physical biochemistry that is divided into two parts. The first part covers the major experimental techniques used in physical biochemistry, including X-ray crystallography, NMR spectroscopy, general spectroscopy, and thermodynamics. The theoretical and experimental bases of the techniques will be emphasized. The second part addresses the structure and mechanisms of biological macromolecules, and many of the major classes of proteins will be discussed, as well as the structures of DNA and RNA. Emphasis will be on the physicochemical processes that control the folding and stability of macromolecules and on the processes that determine their unique structures and functions. The course will be accompanied by problem sets and practical sessions in the laboratory, and students will also be provided with software for viewing and manipulating structures on personal computers. *Mode of delivery:* Didactic. *Pre-Requisites:* Calculus, physics, biology, organic chemistry, biochemistry, physical chemistry, or permission of the instructor *Offered:* Spring.
- MSCI 814 Bioinformatics I** Credit: 2 (32-0) This course consists of eleven 2.5-hour segments. The material will be introduced in a brief Lecture for 30-45 minutes as necessary. The majority of time will be spent using computer applications of bioinformatics tools. The course is designed to provide practical training in bioinformatics methods including accessing the major public sequence databases, using the five BLAST tools to find sequences, analyzing protein and nucleic acid sequences, detecting motifs or domains in proteins, assembling protein sequences from genomic DNA, detecting exons and finding intron-exon boundaries, aligning sequences (Clustal W), and making phylogenetic trees (Phylip). Basic proteomics methods and comparative genomics will also be discussed. Students should leave the course with a working knowledge of how to carry out research using these tools. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* David Nelson (Spring).

- MSCI 815 Bioinformatics II** *Credit: 1 (16-0)* This course follows MSCI 814, Bioinformatics I, and consists of six 2.5- hour segments partially as lecture and partially as computer tutorial sessions to demonstrate advanced bioinformatics methods and the use of databases. Topics include knowledge base mining; 3D structure viewers like Cn3D, the VAST databases of 3D structure alignments; use of genome browsers like UCSC and Ensembl and NCBI's genomic biology section; gene arrays--their construction, use, and data analysis; mapping quantitative trait loci (QTLs) and radiation hybrid mapping; genome assembly and annotation. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* MSCI 814, Bioinformatics I *Offered:* Spring. *Instructor of Record:* David Nelson (Spring).
- MSCI 828 Principles of Laboratory Instruction** *Credit: 3 (48-0)* Conferences on methods of instruction and practice in supervision of students who are performing laboratory experiments. *Mode of delivery:* Research based. *Offered:* Fall. *Instructor of Record:* J. Pat Ryan (Fall); J. Pat Ryan (Spring).
- MSCI 829 Student Literature Presentations** *Credit: 1 (16-0)* Assigned readings in the original literature with presentation and critical discussion of papers. *Mode of delivery:* Didactic. *Offered:* Fall, Spring.
- MSCI 833 Virology** *Credit: 3 (48-0)* An introductory course emphasizing bacterial and animal viruses. The nature, classification, physicochemical properties, molecular biology, multiplication, host cell relationships, immunology, and methods of propagation and quantitation of the viruses are considered. *Mode of delivery:* Didactic. *Offered:* (not currently offered).
- MSCI 840 Section 001 Special Topics in Molecular Sciences - Biochemistry** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Fall, Spring.
- MSCI 840 Section 002 Special Topics in Molecular Sciences - Immunology** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Fall, Spring.
- MSCI 840 Section 003 Special Topics in Molecular Sciences - Virology** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Fall, Spring.
- MSCI 840 Section 004 Special Topics in Molecular Sciences - Bacterial Pathogenesis** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Fall, Spring.
- MSCI 840 Section 005 Special Topics in Molecular Sciences - Gene Expression/Regulation** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Fall, Spring.
- MSCI 840 Section 006 Special Topics in Molecular Sciences - Cell Biology** *Credit: 1-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* Elizabeth Fitzpatrick (Spring).
- MSCI 861 Cellular Signaling** *Credit: 3 (48-0)* The course will provide a comprehensive survey of cellular signaling, describing mechanisms of signal transduction. The lectures will detail cellular signaling from the major classes of cell surface receptors to the impact on nuclear events. The class will emphasize the integration and coordination of signaling pathways in the cell and how this impacts on the fact of the cell. *Mode of delivery:* Didactic. *Pre-Requisites:* IP 841, Essentials of Cell Biology; IP 806, Biochemistry *Offered:* Spring. *Instructor of Record:* Susan Senogles (Spring).
- MSCI 900 Doctoral Dissertation and Research** *Credit: 1-9* Research performed under the direction and supervision of the respective student's Research Advisor in partial fulfillment of the requirements for the degree of Doctor of Philosophy. *Mode of delivery:* Research based. *Offered:* Fall, Spring. *Instructor of Record:* Elizabeth Fitzpatrick (Fall); Elizabeth Fitzpatrick (Spring).

- MSCI 910 Student Seminar** *Credit: 3 (48-0)* Reports of current research are made by students for fellows and staff. Presentations are followed by general informal discussion. Under certain circumstances, topics of current interest in the field are selected and reviewed by students and staff members. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* J. Pat Ryan (*Fall*); J. Pat Ryan (*Spring*).
- MSCI 929 Techniques in Molecular Biology** *Credit: 4 (64-0)* The theory and practical application of commonly used laboratory techniques in molecular biology, biochemistry, cell biology, immunology, and structural biology are considered, including hybridization and microarray technology; PCR; recombinant DNA enzymes, vectors and clone detection methods; transgenic mouse technology; in vitro mutagenesis and footprinting; multiple chromatographic methods for use both with and without tags; protein purification strategies; electrophoresis and blotting; mass spectroscopy and proteomics; NMR and X-ray crystallography; generation and uses of monoclonal antibodies; flow cytometry; light and fluorescence microscopy; and cell purification. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall.
- MSCI 931 Immunity and inflammation** *Credit: 2 (32-0)* The course will provide a comprehensive overview of resistance to infection and immunity to viral and bacterial pathogens. Lectures will present in detail the molecular genetic, structural, and cellular mechanisms that determine innate and adaptive immune cell activation and effector function. The literature review will use landmark papers to document research that has elucidated innate and adaptive immune mechanisms that determine resistance to infection by bacteria and viruses. At the end of the course, students will have a comprehensive understanding of innate and adaptive immunity to viruses and bacteria. *Mode of delivery:* Didactic. *Pre-Requisites:* IP 806, Biochemistry; IP 841, Essentials of Cell Biology and IP 805, Essentials of Molecular Biology; or permission of course director *Offered:* Fall. *Instructor of Record:* Elizabeth Fitzpatrick (*Fall*).
- MSCI 932 Viral Pathogenesis** *Credit: 2 (32-0)* The goal of this course is to explore the interactions between viruses and their hosts that result in pathogenic effects and disease. The course will provide an understanding of virus structure, entry, replication and assembly which will form the basis for a comprehensive overview of the molecular and cellular mechanisms responsible for pathogenesis resulting from infection of a host by viruses. The first portion of the course consists of lectures and discussion that present in detail the molecular, structural, and cellular mechanisms that determine virus tropism, entry, replication, dissemination, and responses by the host. The second half of the course will use defined virus model systems to provide a comprehensive and fundamental understanding of the concepts that govern virus-host interactions and that lead to disease. Upon completion of the course, students will have a comprehensive understanding of the molecular and cellular bases for pathogenesis resulting from infection of a host by viruses. The topics are discussed using a format involving a series of introductory lectures followed by a second series of classes consisting of in-class discussion of pertinent research papers. The papers to be read and discussed include classical papers establishing essential concepts and current papers that add detail to the topic under discussion. *Mode of delivery:* Didactic and Research based. *Pre-Requisites:* IP 806, Biochemistry; IP 841, Essentials of Cell Biology *Offered:* Spring. *Instructor of Record:* Lorraine Albritton (*Spring*).

- MSCI 933 Molecular Basis of Bacterial Pathogenesis** *Credit: 2 (32-0)* The course will provide a comprehensive overview of bacterial pathogenesis from the perspective of both host and pathogen. The lectures are intended to provide a comprehensive and fundamental understanding of the concepts that govern host-pathogen interactions. Lectures will present in detail the molecular genetic, structural, and cellular mechanisms that bacterial pathogens use to infect cells and tissues of the host and the subsequent disease consequences of infection. At the end of the course, students will have a comprehensive understanding of bacterial virulence and pathogenesis. Students will understand in detail the molecular genetic, structural, and cellular basis for bacterial pathogenesis. Students will gain a comprehensive understanding of virulence factors, how their expression is controlled at both the molecular and cellular levels and how these bacterial factors affect cells and tissues of the host. Combined with the information learned in the prerequisite courses, students will also have a comprehensive understanding of host-pathogen relationships that ultimately lead to the elimination of infectious agents or the establishment of productive infections. *Mode of delivery:* Didactic. *Pre-Requisites:* IP 806, Biochemistry and IP 841, Essentials of Cell Biology; or permission of the course director *Offered:* Spring.
- MSCI 934 Techniques I - Biochemical and Cellular Methods** *Credit: 2 (32-0)* The theory and practical application of commonly used techniques in biochemistry, cell biology, immunology, and structural biology are considered, including absorption and emission spectroscopy; multiple chromatographic methods for use both with and without tags; protein purification strategies; protein electrophoresis and blotting; mass spectroscopy and proteomics; NMR and X-ray crystallography; generation and use of monoclonal and polyclonal antibodies; flow cytometry; light, fluorescence, and confocal microscopy; apoptosis and cell purification. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Martha Howe (Spring).
- MSCI 935 Techniques II - Methods for Nucleic Acids** *Credit: 2 (32-0)* The theory and practical application of commonly used techniques for working with nucleic acids are considered, including nucleic acid isolation, quantitation, and electrophoresis; hybridization, mini-and micro arrays; DNA sequencing; oligonucleotide synthesis, uses, PCR and qPCR; restriction and modification enzymes, and polymerases; prokaryotic and eukaryotic cloning vectors; library construction and clone detection; cDNA-expression and siRNA-silencing libraries; making transgenic mice; in vitro mutagenesis, gel retardation, footprinting, and chromatin assays. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall.

Nursing Science

- NSG 840 Section 001 Special Topics - Chronic Health Issues** *Credit: 2-4* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. May be repeated up to 8 *Offered:* Fall, Spring. *Instructor of Record:* Patricia Cowan (Spring).
- NSG 840 Section 002 Special Topics - Acute Health Issues** *Credit: 2-4* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. May be repeated up to 8 *Offered:* Fall, Spring. *Instructor of Record:* J. Carolyn Graff (Spring).
- NSG 840 Section 003 Special Topics - Lifespan Issues** *Credit: 2-4* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. May be repeated up to 8 *Offered:* Fall, Spring. *Instructor of Record:* J. Carolyn Graff (Spring).
- NSG 900 Doctoral Dissertation and Research** *Credit: 1-9* Research performed under the direction and supervision of the respective student's Research Advisor in partial fulfillment of the requirements for the degree of Doctor of Philosophy. *Mode of delivery:* Didactic, clinical, and/or Lab. up to 144 *Offered:* Fall, Spring. *Instructor of Record:* J. Carolyn Graff (Fall); J. Carolyn Graff (Spring).
- NSG 911 Philosophy of Science** *Credit: 3 (48-0)* A course focusing upon development of science in the Western world and epistemology. Ways of knowing and ways of thinking as they relate to the advancement of science will be covered. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Kimberly Robitaille (Fall).

- NSG 912 Theory Construction and Analysis** *Credit: 3 (48-0)* A course providing emphasis on the discovery of knowledge related to nursing and health care and the development of nursing theories. The course is aimed at assisting the student to develop the ability to evaluate existing knowledge critically and to engage in the use and creation of knowledge specifically applicable to nursing. *Mode of delivery: Didactic Hybrid. Offered: Spring. Instructor of Record: Mona N. Wicks (Spring).*
- NSG 913 Qualitative Research Methods** *Credit: 3 (48-0)* One of a series of courses designed to provide the student a firm grounding in research methodologies and approaches to data analysis and interpretation. Focuses on qualitative research methodology. *Mode of delivery: Didactic. Offered: Fall. Instructor of Record: J. Carolyn Graff (Fall).*
- NSG 919 Nursing Science Seminar** *Credit: 1 (16-0)* A seminar with student and Faculty participation that focuses on current topics such as issues, trends, and research in nursing and nursing care delivery. *Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Patricia Cowan (Fall).*
- NSG 923 Quantitative Research Methods** *Credit: 3 (48-0)* One of a series of courses designed to provide the student firm grounding in research methodologies and approaches to data analysis and interpretation. Focuses on quantitative research methodology. *Mode of delivery: Didactic. Offered: Spring. Instructor of Record: Donna Hathaway (Spring).*
- NSG 924 Scientific Dissemination** *Credit: 3 (48-0)* This seminar prepares participants to write scholarly documents clearly and effectively for dissemination as refereed articles for scientific and lay audiences. Discussion will focus on strategies for effective writing, identification and development of a topic, selecting a journal and using author guidelines, finding and documenting sources, the submission and revision process, legal and ethical issues, organization and time management, and the effective use of tables, graphs, and figures. Faculty will introduce students to a variety of Web-based and print resources to support writing skills development. *Mode of delivery: Didactic Hybrid. Offered: Fall.*
- NSG 925 Mixed Methods Research** *Credit: 3 (48-0)* This course is designed to provide the graduate student with an overview of mixed methods research by building on the student's existing knowledge and experience with quantitative and qualitative research. Mixed methods research involves collection and analysis of quantitative and qualitative data and the integration of findings from both research approaches to increase understanding and corroboration. *Mode of delivery: Didactic. Pre-Requisites: NSG 923, Quantitative Research Methods, or the equivalent or permission from the course director Offered: Spring (not currently offered).*
- NSG 933 Research Seminar for Doctoral Students** *Credit: 2 (32-0)* A seminar with student and faculty participation, designed for intensive study of selected research topics. *Mode of delivery: Seminar. Offered: Fall.*
- NSG 934 Theoretical and Methodological Issues for Clinical Research** *Credit: 2 (48-0)* This course focuses on the process of designing and conducting clinical nursing research, and addresses theoretical, methodological, and feasibility issues in the context of different clinical populations and settings. Students synthesize previous coursework in philosophy of science, theories, quantitative and qualitative research methods, and biostatistics, and apply it to the design of their program of research. Feasibility issues and modification of research methods will be addressed in the context of gaining and maintaining entree` to the clinical population and setting; population and clinical constraints; national and regional significance; funding priorities; interdisciplinary and interprofessional teams; protection of human subjects' rights; and emerging research methods. *Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Patricia Cowan (Fall).*

NSG 960 Directed Study Credit: 1-6 A course designed to provide the doctoral student with the opportunity to undertake additional guided study, research, and/or practice experience in an area of the student's choice under Faculty supervision. The student will develop course outcomes in consultation with Faculty. Mode of delivery: Didactic, Clinical, and/or Lab Hybrid. May be repeated once up to 12 credit hours Offered: Fall, Spring, Summer. Instructor of Record: Mona Wicks (Fall); J. Carolyn Graff (Spring).

Pathology

PATH 801 Laboratory Management Credit: 1 (16-0) This course provides the fundamental principles of laboratory management, including safety compliance, communication skills, inventory management, laboratory financial management, scientific writing, scientific graphic design, small equipment maintenance, and personnel supervisory skills. *Mode of delivery:* Didactic. *Pre-Requisites:* Enrollment is limited to students enrolled in the Master of Science in Biomedical Sciences with a concentration in Laboratory Research and Management. *Offered:* Fall.

PATH 802 Journal Club Credit: 1 (16-0) Faculty and students will meet once a week for presentation and discussion of current published papers relevant to technical aspects of laboratory research. *Mode of delivery:* Seminar. *Pre-Requisites:* Enrollment is limited to students enrolled in the Master of Science in Biomedical Sciences with a concentration in Laboratory Research and Management *Offered:* Fall.

PATH 803 Molecular Biology Techniques Laboratory I Credit: 1 (0-32) This course will constitute the laboratory companion of the course MSCI 935 (Techniques - Nucleic Acid Methods). Students will put theory into practice and receive hands-on instruction on both core and cutting-edge techniques used in cell and molecular biological experimentation. *Mode of delivery:* Lab. *Pre-Requisites:* Enrollment is limited to students enrolled in the Master of Science in Biomedical Sciences with a concentration in Laboratory Research and Management. *Offered:* Spring.

PATH 804 Molecular Biology Techniques Laboratory II Credit: 1 (0-32) This course will constitute the laboratory companion of the course MSCI 934 (Techniques - Nucleic Acid Methods). Students will put theory into practice and receive hands-on instruction on both core and cutting-edge techniques used in cell and molecular biological experimentation. *Mode of delivery:* Lab. *Pre-Requisites:* Enrollment is limited to students enrolled in the Master of Science in Biomedical Sciences with a concentration in Laboratory Research and Management. *Offered:* Fall.

PATH 834 Pathology Seminars Credit: 1 (16-0) Topics of current interest in the field are selected and reviewed by the student in conjunction with the course director and other Faculty members. Presentations are followed by a general informal discussion. Under certain circumstances, reports of current research may be made by students. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Tiffany N. Seagroves (Fall).

PATH 840 Special Topics Credit: 1-5 Directed readings or a special course in topics of current interest, including research techniques, career development and science writing. *Mode of delivery:* Didactic. May be repeated up to 20 *Offered:* Offered every term. *Instructor of Record:* Tiffany N. Seagroves (Spring).

PATH 900 Doctoral Dissertation Credit: 1-9 Pass/Fail Research performed under the direction of the student's Research Advisor in partial fulfillment of the requirements for the Ph.D. degree. Lab. *Mode of delivery:* Lab. *Offered:* As Needed. *Instructor of Record:* Tiffany N. Seagroves (Spring).

PATH 924 Introduction to Web-Based Bioinformatics and Computational Biology Tools Credit: 2 (32-0) This course teaches students the basic practices of Bioinformatics and Computational Biology. The integrated lectures and hand-on-sessions will focus on application of different analysis tools and public databases to analyze and interpret the biological meaning of data generated by high-throughput technologies. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Meiyun Fan (Fall).

Pharmaceutical Sciences

Medicinal Chemistry

- MEDC 612 Organic Medicinal Chemistry I** *Credit: 4 (64-0)* In addition to lectures attended jointly with professional students (Medicinal Chemistry 112, 122), advanced concepts are discussed in conference sessions, limited to graduate students. *Mode of delivery:* Didactic. *Pre-Requisites:* Two terms of organic chemistry or equivalent *Offered:* Fall, Spring. *Instructor of Record:* Bob Moore (Fall).
- MEDC 622 Organic Medicinal Chemistry II** *Credit: 4 (64-0)* Continuation of Medicinal Chemistry I. *Mode of delivery:* Didactic. *Pre-Requisites:* MEDC 612 Medicinal Chemistry I *Offered:* Fall, Spring. *Instructor of Record:* Isaac Donkor (Spring).
- MEDC 800 Master's Thesis and Research** *Credit: 1-9* Research performed under the direction and supervision of the respective student's Research Advisor, in partial fulfillment of the requirements for the degree of Master of Science. Research based. *Mode of delivery:* Research based. May be repeated *Offered:* Offered every term.
- MEDC 812 Advanced Medicinal Chemistry** *Credit: 3 (48-0)* This course will present concepts in medicinal chemistry with emphasis on application of these concepts to rational drug design. Classical and contemporary approaches to the design of small molecules for interaction with macromolecular targets such as receptors, enzymes, and DNA will be discussed. *Mode of delivery:* Didactic. *Offered:* Spring (alternate years).
- MEDC 813 Research Techniques in Medicinal Chemistry** *Credit: 3* An introduction to current trends in the design and synthesis of potential medicinal agents. The course includes recent techniques applicable to the isolation and characterization of organic compounds, as well as contemporary methodology for the study and chemical and physical properties influencing biological response. The course content is tailored to the specific needs of students majoring in this field. *Mode of delivery:* Didactic. May be repeated up to 15 credit hours *Offered:* Fall. *Instructor of Record:* Wei Li (Fall).
- MEDC 814 Computer-Aided Molecular Design in the Development of Chemotherapeutic Agents I** *Credit: 3 (48-0)* This course is designed to teach students the essential elements of computer-aided drug design. It will cover (1) molecular models of small molecules, proteins, and nucleic acids and the validity of models created via computer of chemotherapeutic agents and/or lead drug agents; (2) use of protein and nucleic acid models in the development of lead drug agents; and (3) development of lead compounds or second-generation drugs using computational methodologies. *Mode of delivery:* Didactic. *Pre-Requisites:* One year of organic chemistry (or equivalent), one semester of biochemistry (or equivalent), one year of calculus and/or physical chemistry (or equivalent), or permission of the instructor *Offered:* Offered as needed.
- MEDC 819 Seminars in Medicinal Chemistry** *Credit: 1 (16-0)* Current journal articles in Medicinal Chemistry will be presented by students followed by a question and answer session. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* Isaac O. Donkor (Fall); Wei Li (Spring).

- MEDC 824 Computer-Aided Molecular Design in the Development of Chemotherapeutic Agents II** *Credit: 3 (48-0)* This course is a combined lecture and computer laboratory sequel to MEDC 814. It is designed for students to learn the essential elements of quantitative structure-activity relationship (QSAR) modeling and its applications in therapeutic agent design and drug development. It will cover both traditional 2D QSAR methods comprising property-based and 2D molecular structure-based techniques, as well as more recent 3D molecular structure-based QSAR methods like comparative molecular field analysis (CoMFA) and comparative molecular similarity indices analysis (CoMSIA). The use of multivariate analysis methods such as multiple linear regression (MLR), partial least squares (PLS, artificial neural networks (ANN), and genetic algorithms in QSAR will also be covered. Prerequisite(s): MEDC 814, Computer- Aided Molecular Design in the Development of Chemotherapeutic Agents I. *Mode of delivery:* Lecture and computer laboratory. *Pre-Requisites:* MEDC 814, Computer- Aided Molecular Design in the Development of Chemotherapeutic Agents I. *Didactic. Offered:* Offered as needed.
- MEDC 840 Section 001 Advanced Topics in Medicinal Chemistry Heterocyclic Organic Medicinal Chemistry** *Credit: 3 (48-0)* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Offered as needed. *Instructor of Record:* Bob Moore (Spring).
- MEDC 840 Section 002 Advanced Topics in Asymmetric Organic Synthesis** *Credit: 3 (48-0)* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Offered as needed.
- MEDC 900 Doctoral Dissertation and Research** *Credit: 1-9* Research performed under the direction and supervision of the respective student's Research Advisor in partial fulfillment of the requirements for the degree of Doctor of Philosophy. *Mode of delivery:* Research based. *Offered:* Fall, Spring. *Instructor of Record:* John Buolamwini (Spring).
- MEDC 919 Seminars in Medicinal Chemistry** *Credit: 1 (16-0)* Seminar presentation required of Ph.D. candidates in Medicinal Chemistry. *Mode of delivery:* Didactic. May be repeated up to Must be repeated for at least 3 credit hours *Offered:* Fall, Spring. *Instructor of Record:* Hassan Almoazen (Fall); Wei Li (Spring).

Pharmaceutics

- PHAC 810 Research Techniques in Pharmaceutics** *Credit: 1-3* An introductory course to acquaint the beginner with the principal research techniques and procedures in the physical, chemical, and biological evaluation of therapeutic agents. Content is tailored to the specific needs of students majoring in this field. *Mode of delivery:* Didactic and Lab. May be repeated 5 consecutive terms up to 5 credit hours *Offered:* Fall, Spring. *Instructor of Record:* Bernd Meibohm (Spring).
- PHAC 813 Advanced Pharmacokinetics (Pharmacokinetics, Pharmacodynamics and Drug Development)** *Credit: 4 (64-0)* Advanced analysis and modeling techniques in pharmacokinetics and pharmacodynamics relevant to preclinical and clinical drug development. Includes Didactics and practical analysis and interpretation of pharmacokinetic/pharmacodynamic data. *Mode of delivery:* Didactic. *Pre-Requisites:* One year of calculus (or equivalent), PHAC 827, Pharmacokinetics and Dose Optimization (or equivalent) *Offered:* Spring term every other year. *Instructor of Record:* Bernd Meibohm (Spring).
- PHAC 814 Parenteral Medications** *Credit: 2* Techniques in the management of problems associated with the preparation, production, and distribution of medicinal agents in parenteral dosage forms are presented. *Mode of delivery:* Didactic and Lab. *Offered:* Fall, Spring.

- PHAC 817 Drug Metabolism** *Credit: 3 (480)* Fundamental principles underlying human drug metabolism and the major drug metabolizing enzymes will be reviewed. One third of the course will cover kinetic models, factors regulating drug metabolism, and methods for studying human enzymes. Two thirds of the course will cover the biochemistry, substrate specificity, tests of phenotype and/or genotype in vitro and in vivo, population distribution, regulation, tissue distribution, and clinical and biologic significance for the P450s and several other important phase I and phase II enzymes. *Mode of delivery:* Didactic. *Pre-Requisites:* IP805, Essentials of Molecular Biology, Pharmacokinetics, biochemistry, and permission of the instructor *Offered:* Fall term of every other year. *Instructor of Record:* Erin Schuetz (Fall).
- PHAC 818 Physical Chemical Interpretation of Polyphasic and Disperse Drug Systems** *Credit: 3 (480)* This course covers the physicochemical principles basic to the study and evaluation of pharmaceutical disperse systems. Studies are directed at a consideration of the impact of surface effects on the design of dosage forms. Included in the study are rheology, colloidal systems, adsorption, and surface and interfacial phenomena. *Mode of delivery:* Didactic. *Pre-Requisites:* Physical chemistry *Offered:* Fall. *Instructor of Record:* George Wood (Spring).
- PHAC 819 Seminars in Pharmaceutics** *Credit: 1 (160)* Current journal articles in Pharmaceutics will be presented by students followed by a question and answer session. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* Hassan Almoazen (Fall); Hassan Almoazen (Spring).
- PHAC 826 Pharmaceutical Analysis** *Credit: 3 (480)* This course discusses analytical methods used in pharmaceutical sciences, including chromatography, electrophoresis, and mass spectrometry. Basic theoretical aspects, typical instrumentation, and selected applications for each technique are covered. *Mode of delivery:* Didactic. *Offered:* (not currently offered).
- PHAC 827 Pharmacokinetics and Dose Optimization** *Credit: 4 (32)* A graduate level introduction to the concepts and techniques involved in quantitative processes associated with the absorption, distribution, metabolism, and elimination of drugs. The course will rigorously develop basic pharmacokinetic concepts based on appropriate model systems and will introduce the student to pharmacometric analysis approaches. It will furthermore introduce to the mechanistic basis of between subject variability in pharmacokinetics and approaches to use this information for dose selection in drug development and applied pharmacotherapy. *Mode of delivery:* Didactic and recitation based course. *Offered:* Fall. *Instructor of Record:* Bernd Meibohm (Fall).
- PHAC 828 Principles of Radionuclide Methodology** *Credit: 1 (160)* Principles of working with radionuclides in the research environment with emphasis on instrumentation and safe handling practices and procedures. *Mode of delivery:* Didactic. *Offered:* Fall.
- PHAC 831 Pharmaceutical Preformulation and Drug Product Development** *Credit: 4 (640)* This course covers the underlying scientific principles and strategies employed in the assessment, characterization, and optimization of new drug products that will eventually be used in humans. *Mode of delivery:* Didactic. *Pre-Requisites:* Basic collegiate level or graduate level Physical Pharmacy course *Offered:* Fall. *Instructor of Record:* George Wood (Spring).
- PHAC 832 Entrepreneurship in Pharmaceutical and Biomedical Sciences** *Credit: 2 (32-0)* This course will introduce fundamental concepts of business and entrepreneurship in the biomedical and pharmaceutical industries. The focus of the course will be on how to evaluate an idea for a new product or service, fundamentals of finance and law, how to prepare a business plan and elevator pitch, types of funding that are available for a new business, and how life science product development differs from research. Throughout the term students will develop an elevator pitch and business plan based around an idea of their choice, culminating in presentations to the class and an outside panel. *Mode of delivery:* Didactic. *Offered:* Offered as needed. *Instructor of Record:* Richard Magid (Spring).

- PHAC 840 Section 001 Special Topics - Instructional Design and Delivery** *Credit: 1-3 Directed readings or special course in topics of current interest. Mode of delivery: Didactic. May be repeated Offered: (not currently offered).*
- PHAC 840 Section 002 Special Topics - Educational Assessment** *Credit: 1-3 Directed readings or special course in topics of current interest. Mode of delivery: Didactic. May be repeated Offered: (not currently offered).*
- PHAC 840 Section 003 Special Topics - Drug Stability** *Credit: 1-3 Directed readings or special course in topics of current interest. Mode of delivery: Didactic. May be repeated up to 6 Offered: (not currently offered).*
- PHAC 840 Section 005 Special Topics - Site-Specific Delivery of Triplex Forming Oligonucleotides** *Credit: 1-3 Directed readings or special course in topics of current interest. Mode of delivery: Didactic. May be repeated up to 6 Offered: (not currently offered).*
- PHAC 840 Section 006 Special Topics - Research Techniques in Pharmaceutical Technology** *Credit: 1-3 Directed readings or special course in topics of current interest. Mode of delivery: Didactic. May be repeated up to 6 Offered: (not currently offered).*
- PHAC 840 Section 007 Special Topics - Research Techniques in Pharmacokinetics, Pharmacodynamics, and Pharmacogenetics** *Credit: 1-3 Directed readings or special course in topics of current interest. Mode of delivery: Didactic. May be repeated up to 6 Offered: (not currently offered). Instructor of Record: Bernd Meibohm (Fall).*
- PHAC 840 Section 008 Special Topics - Population Pharmacokinetics** *Credit: 1-3 Directed readings or special course in topics of current interest. Mode of delivery: Didactic. May be repeated up to 6 Offered: (not currently offered).*
- PHAC 840 Section 011 Special Topics - Site-specific Delivery of Nucleic Acids** *Credit: 1-3 Directed readings or special course in topics of current interest. Mode of delivery: Didactic. May be repeated up to 6 Offered: (not currently offered).*
- PHAC 840 Section 012 Special Topics - Research Techniques in Pharmaceutical Technology II** *Credit: 1-3 Directed readings or special course in topics of current interest. Mode of delivery: Didactic. May be repeated up to 6 Offered: (not currently offered).*
- PHAC 840 Section 013 Special Topics - Preclinical Pharmacokinetics** *Credit: 1-3 Directed readings or special course in topics of current interest. Mode of delivery: Didactic. May be repeated up to 6 Offered: (not currently offered).*
- PHAC 900 Doctoral Dissertation and Research** *Credit: 1-9 Research performed under the direction and supervision of the respective student's Research Advisor. Research based. Mode of delivery: Research based. May be repeated up to 144 Offered: Offered every term. Instructor of Record: Ryan Yates (Fall); John Buolamwini (Spring).*
- PHAC 911 Delivery and Biocompatibility of Protein and Nucleic Acid Drugs** *Credit: 3 (48-0) This course is designed to teach students about the use of biomaterials for delivery and biocompatibility of proteins, peptides, and various nucleic acid drugs. It will cover (1) design, synthesis, and characterization of polymers; (2) biocompatibility; (3) various approaches to proteins and peptide delivery; (4) introduction to different types of nucleic acid drugs; and (5) antisense and nonviral gene therapy. Mode of delivery: Didactic. Pre-Requisites: One year of organic, medicinal, or physical chemistry, or B.S. in Pharmacy, Bioengineering, Biotechnology, Biochemistry, Pharmacology, or Medical Sciences, or permission of the instructor Offered: Spring (not currently offered). Instructor of Record: Shubhash Chauhan (Spring).*
- PHAC 919 Seminars in Pharmaceutics** *Credit: 1 (16-0) Seminar presentation required of Ph.D. candidates in Pharmaceutics. Mode of delivery: Didactic. May be repeated up to Must be repeated for a total of 3 credits required. Offered: Fall, Spring. Instructor of Record: Hassan Almoazen (Fall); Hassan Almoazen (Spring).*

Pharmacology

- PHAR 610 Medical Pharmacology** *Credit: 8 (Fall: 4; Spring: 4) (16-224)* This course is designed to give students a fundamental knowledge of the interactions between drugs and living systems. Drug mechanisms of action and drug interactions are emphasized. Principles of drug metabolism, synergism, antagonism, accumulation and toxicity are also discussed. Selected laboratory experiments elucidate the mechanisms of drug actions. *Mode of delivery:* Didactic and lab. *Offered:* Fall through Spring. *Instructor of Record:* Trevor Sweatman (Fall); Trevor Sweatman (Spring).
- PHAR 800 Master's Thesis and Research** *Credit: 1-9* Research performed under the direction and supervision of the respective student's advisor, in partial fulfillment of the requirements for the degree of Master of Science. *Mode of delivery:* Research based. *Offered:* Fall, Spring. *Instructor of Record:* Edwards Park (Spring).
- PHAR 801 Foundations of Pharmacology** *Credit: 6 (Fall: 4; Spring: 2) (96-0)* The functional regulation of major organ systems by neuronal and/or hormonal influences is described in a lecture and discussion-based format. Opportunities for drug intervention both in health and in selected disease processes are examined, the corresponding intracellular signaling processes described and the rationalization for and limitations of such treatments discussed. *Mode of delivery:* Didactic. *Offered:* Fall through Spring. *Instructor of Record:* Trevor Sweatman (Fall); Trevor Sweatman (Spring).
- PHAR 802 Current Topics in Clinical Pharmacology** *Credit: 4 (Fall: 2; Spring: 2) (64-0)* A student-led short-presentation and group- discussion course that examines important regulatory, social and economic issues surrounding contemporary drug treatment. *Mode of delivery:* Didactic. *Offered:* Fall through Spring. *Instructor of Record:* Parker Suttle (Fall); Parker Suttle (Spring).
- PHAR 803 Pharmacology Research Techniques** *Credit: 1 (16-0)* A presentation, demonstration and discussion course that examines the mechanics, suitability and potential pitfalls of common pharmacology research techniques. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Trevor Sweatman (Fall); Trevor Sweatman (Spring).
- PHAR 811 Introduction to Research in Pharmacology** *Credit: 1-6* Designed to orient graduate students to various areas of research in the department and to problems that may be encountered in the planning and conduct of investigations in pharmacology. Opportunity is provided for individual participation in the research program of a Faculty member. Enrollment is limited to graduate students in the Department of Pharmacology. *Mode of delivery:* Seminar and research based. *Offered:* Fall, Spring.
- PHAR 812 Principles of Drug Action, Part I** *Credit: 5 (80-0)* Lectures, comprehensive discussions, and student presentations of selected topics from the scientific literature are focused on the basic principles of drug action, pharmacokinetics, pharmacodynamics, receptor binding, pharmacologic aspects of signal transduction, cancer chemotherapy, and antimicrobial drugs. *Mode of delivery:* Didactic. *Offered:* Fall (not currently offered).
- PHAR 819 Pharmacology Research Seminar** *Credit: 2 (32-0)* This is the weekly research seminar program in the Program in Pharmacology. Speakers include Faculty from the Program in Pharmacology, other programs from The University of Tennessee Health Science Center, and from outside institutions. *Mode of delivery:* Research seminar. *Pre-Requisites:* Enrollment is limited to graduate students in the Department of Pharmacology. *Offered:* Offered every term. *Instructor of Record:* Edwards Park (Fall); Edwards Park (Spring).
- PHAR 822 Principles of Drug Action, Part II** *Credit: 5 (80-0)* Lectures, comprehensive discussions, and student presentations of selected topics from the scientific literature are focused on autonomic and neuropharmacology, endocrine and metabolic pharmacology, and cardiovascular pharmacology. *Mode of delivery:* Didactic. *Offered:* Spring (not currently offered).

- PHAR 823 Cellular Neuroscience** *Credit: 3 (48-0)* This interdisciplinary course is offered through the Center for Neuroscience and provides the student with an overview of the cellular and molecular processes by which neurons communicate. The course covers classical theories and concepts as a basis for appreciation of recent research advances. Extensive reading of the literature will supplement lectures. *Mode of delivery:* Didactic. *Offered:* Spring.
- PHAR 840 Special Topics** *Credit: 2* Directed readings or special course in topics of current interest. *Mode of delivery:* Seminar. May be repeated up to 10 *Offered:* Offered every term. *Instructor of Record:* Edwards Park (Spring).

Physiology

- PHYS 612 Physiology and Biophysics (Medical Physiology)** *Credit: 5 (80-0)* This course, required of physiology graduate students, consists of closely integrated series of lectures, conferences and laboratory experiences presenting the physical underpinnings and functional properties of living matter and its reactions to internal and external stimuli. The physiology of the body's various systems is detailed, and their integration into a coordinated functional unit is described. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* David Nutting (Spring).
- PHYS 800 Master's Thesis and Research** *Credit: 1-9* Pass/Fail Research performed under the direction and supervision of the respective student's research advisor, in partial fulfillment of the requirements for the degree of Master of Science. *Mode of delivery:* Research based. May be repeated *Offered:* Offered every term.
- PHYS 819 Physiology Seminar** *Credit: 1 (16-0)* Presentations by visiting scientists, local Faculty, fellows, or graduate students are made weekly. Students are required to attend and participate in all seminars. *Mode of delivery:* Didactic. *Pre-Requisites:* Enrollment is limited to students in the Master's program. *Offered:* Fall, Spring. *Instructor of Record:* Adebawale Adebisi (Spring).
- PHYS 821 Physiological Research** *Credit: 2-5* Properly prepared students may undertake research for which hours and credit will be arranged. *Mode of delivery:* Lab. *Pre-Requisites:* Permission of instructor; Enrollment is limited to students in the Master's program. May be repeated up to 10 *Offered:* Offered every term.
- PHYS 823 Cellular Neuroscience** *Credit: 3 (48-0)* This course provides the graduate student with an overview of the cellular and molecular processes by which nerve cells operate and covers theories and concepts in the fields of neurochemistry, neurophysiology, and neuropharmacology. Electrochemical conduction, synaptic transmission, the action of transmitters and neuropeptides, and molecular mechanisms underlying sensation, motor function and higher cognitive processes, such as learning and memory, are emphasized. *Mode of delivery:* Didactic. *Offered:* Offered as needed.
- PHYS 840 Section 001 Special Topics - Cell Physiology** *Credit: 2-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Research based. May be repeated up to 6 *Offered:* Offered as needed.
- PHYS 840 Section 002 Special Topics - Functional Topics in Physiology** *Credit: 2-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Research based. May be repeated up to 6 *Offered:* Offered as needed.
- PHYS 840 Section 003 Special Topics - Biophysics** *Credit: 2-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Research based. May be repeated up to 6 *Offered:* Offered as needed.
- PHYS 840 Section 004 Special Topics - Biomedical Research Models** *Credit: 2-3* Directed readings or special course in topics of current interest. *Mode of delivery:* Research based. May be repeated up to 6 *Offered:* Offered as needed.

- PHYS 900** **Doctoral Dissertation and Research** *Credit: 1-9* Pass/Fail Research performed under the direction and supervision of the respective student's research advisor, in partial fulfillment of the requirements for the degree of Doctor of Philosophy. *Mode of delivery:* Research based. May be repeated *Offered:* Offered every term.
- PHYS 911** **Advanced Topics in Physiology (Cardiovascular and Pulmonary Aspects of Perinatal Physiology)** *Credit: 2 (16-32)* A series of advanced courses (1-2 per term, which may include appropriate laboratory exercises) required of physiology graduate students in endocrinology, cardiovascular physiology, gastrointestinal physiology, neurophysiology, respiratory physiology, renal physiology, etc. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* PHYS 612 Physiology and Biophysics (Medical Physiology). Didactic and lab *Offered:* Offered as needed.
- PHYS 912** **Advanced Topics in Physiology** *Credit: 2 (16-32)* A series of advanced courses (1-2 per term, which may include appropriate laboratory exercises) required of physiology graduate students in endocrinology, cardiovascular physiology, gastrointestinal physiology, neurophysiology, respiratory physiology, renal physiology, etc. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* PHYS 612 Physiology and Biophysics (Medical Physiology) *Offered:* Offered as needed.
- PHYS 919** **Physiology Seminar** *Credit: 1 (16-0)* Doctoral program. Presentations by visiting scientists, local Faculty, fellows, or graduate students are made weekly. All students are required to attend and participate in all seminars. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* David Nutting (Fall); Adebowale Adebisi (Spring).
- PHYS 921** **Physiological Research** *Credit: 2-9* Doctoral program. Properly prepared students may undertake research for which hours and credit will be arranged. *Mode of delivery:* Lab. *Offered:* (not currently offered).

Speech and Hearing Science

- ASP 502** **Registration for Use of Facilities** *Credit: 1-15 P/NP* Required for the student not otherwise registered during any term when student uses university facilities and/or Faculty time before degree is completed. Credit Restriction: May not be used toward degree requirements. *Mode of delivery:* n/a. May be repeated *Offered:* Offered every term. *Instructor of Record:* Dr. Ashley Harkrider (Spring).
- ASP 600** **Section 001 Doctoral Research and Dissertation** *Credit: 3-15* Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Devin Casenhiser (Fall); Dr. Devin Casenhiser (Spring).
- ASP 600** **Section 002 Doctoral Research and Dissertation** *Credit: 3-15* Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Molly Erickson (Fall); Dr. Mary L. Erickson (Spring).
- ASP 600** **Section 003 Doctoral Research and Dissertation** *Credit: 3-15* Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Ashley Harkrider (Spring).
- ASP 600** **Section 004 Doctoral Research and Dissertation** *Credit: 3-15* Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Mark Hedrick (Spring).
- ASP 600** **Section 005 Doctoral Research and Dissertation** *Credit: 3-15* Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Patti Stone (Spring).

- ASP 600 Section 006 Doctoral Research and Dissertation** *Credit:* 3-15 Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Kristin King (Spring).
- ASP 600 Section 007 Doctoral Research and Dissertation** *Credit:* 3-15 Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term.
- ASP 600 Section 008 Doctoral Research and Dissertation** *Credit:* 3-15 Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Patrick Plyler (Spring).
- ASP 600 Section 009 Doctoral Research and Dissertation** *Credit:* 3-15 Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Tim Saltuklaroglu (Fall); Dr. Tim Saltuklaroglu (Spring).
- ASP 600 Section 010 Doctoral Research and Dissertation** *Credit:* 3-15 Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Ilsa Schwarz (Fall); Dr. Ilsa Schwarz (Spring).
- ASP 600 Section 011 Doctoral Research and Dissertation** *Credit:* 3-15 Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Dr. Deborah von Hapsburg (Fall); Dr. Deborah von Hapsburg (Spring).
- ASP 600 Section 012 Doctoral Research and Dissertation** *Credit:* 3-15 Pass/Fail Research based. *Mode of delivery:* Research based. *Pre-Requisites:* Consent of instructor May be repeated up to 30 credit hours *Offered:* Offered every term. *Instructor of Record:* Jong Ho Won (Fall); Dr. Jong Ho Won (Spring).
- ASP 601 Experimental Phonetics** *Credit:* 3 (48-0) Acoustical and perceptual analyses of speech production and overall oral communication. *Mode of delivery:* Didactic. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Fall, Spring (not currently offered).
- ASP 602 Psychoacoustics** *Credit:* 3 Auditory perception and reception of acoustic stimuli. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 507 or consent of instructor *Offered:* Fall, Spring. *Instructor of Record:* Dr. Jong Ho Won (Fall); Dr. Jong Ho Won (Spring).
- ASP 604 Molecular Genetics and Pharmacology of Hearing** *Credit:* 3 Study of genetics, pharmacology, and general cellular processes as they relate to hearing. *Mode of delivery:* Didactic. *Pre-Requisites:* ASP 507 or consent of instructor *Offered:* Fall. *Instructor of Record:* Dr. Mark Hedrick (Fall).
- ASP 605 Speech Perception and Hearing Impairment** *Credit:* 3 Study of perception of speech stimuli, with particular emphases on the effects of hearing impairment on perception. *Mode of delivery:* Didactic. *Pre-Requisites:* Consent of instructor. *Offered:* Spring. *Instructor of Record:* Dr. Mark Hedrick (Spring).
- ASP 609 Advanced Topics in Speech Science** *Credit:* 3 Topics vary. *Mode of delivery:* Seminar. May be repeated up to 6 credit hours *Offered:* (not currently offered). *Instructor of Record:* NOT CURRENTLY OFFERED (Spring).
- ASP 610 Advanced Topics in Hearing Science** *Credit:* 3 (48-0) Topics vary. *Mode of delivery:* Didactic. May be repeated up to 6 credit hours *Offered:* (not currently offered).
- ASP 611 Experimental Design in Speech and Hearing** *Credit:* 3 (48-0) Analysis of experimental design in theses and related journals. Generation of experimental designs. *Mode of delivery:* Didactic. *Pre-Requisites:* Consent of instructor May be repeated up to 6 credit hours *Offered:* Fall, Spring (not currently offered).

- ASP 626 Advanced Topics in Neurologically-based Communication Disorders** *Credit: 3 Topics vary. Mode of delivery: Seminar. Pre-Requisites: ASP 518 and ASP 526 May be repeated up to 6 credit hours Offered: (not currently offered). Instructor of Record: NOT CURRENTLY OFFERED (Spring).*
- ASP 650 Advanced Topics in Audiology** *Credit: 3-6 Topics vary. Mode of delivery: Didactic. May be repeated up to 9 credit hours Offered: (not currently offered).*
- ASP 652 Advanced Topics in Speech and Language** *Credit: 3 Topics vary. Mode of delivery: Seminar. May be repeated up to 6 credit hours Offered: (not currently offered). Instructor of Record: NOT CURRENTLY OFFERED (Spring).*
- ASP 655 Section 001 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term.*
- ASP 655 Section 002 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term.*
- ASP 655 Section 003 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term.*
- ASP 655 Section 004 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term.*
- ASP 655 Section 005 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term. Instructor of Record: Dr. Patti Johnstone (Spring).*
- ASP 655 Section 006 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term.*
- ASP 655 Section 007 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term.*
- ASP 655 Section 008 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term.*
- ASP 655 Section 009 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term.*
- ASP 655 Section 010 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term.*
- ASP 655 Section 011 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term.*
- ASP 655 Section 012 Practicum in College Teaching** *Credit: 1-3 Satisfactory/Not Satisfactory Supervised experience in college teaching. Pre-Requisites: Consent of instructor May be repeated up to 6 credit hours Offered: Offered every term.*

- ASP 656 Section 001 Directed Research** *Credit: 1-4 Directed Research. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Devin Casenhiser (Fall); Dr. Devin Casenhiser (Spring).*
- ASP 656 Section 002 Directed Research** *Credit: 1-4 Directed Research. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Mary L. Erickson (Spring).*
- ASP 656 Section 003 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Ashley Harkrider (Fall); Dr. Ashley Harkrider (Spring).*
- ASP 656 Section 004 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Mark S. Hedrick (Spring).*
- ASP 656 Section 005 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patti Johnstone (Fall); Dr. Patti Johnstone (Spring).*
- ASP 656 Section 006 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Kristin King (Spring).*
- ASP 656 Section 007 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 656 Section 008 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patrick Plyler (Fall); Dr. Patrick N. Plyler (Spring).*
- ASP 656 Section 009 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Tim Saltuklaroglu (Spring).*
- ASP 656 Section 010 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 656 Section 011 Directed Research** *Credit: 1-4. Mode of delivery: Research based. May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 657 Section 001 Directed Study in Speech Pathology** *Credit: 1-3. Mode of delivery: Lab. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 657 Section 002 Directed Study in Speech Pathology** *Credit: 1-3. Mode of delivery: Lab. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 657 Section 003 Directed Study in Speech Pathology** *Credit: 1-3. Mode of delivery: Lab. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 657 Section 004 Directed Study in Speech Pathology** *Credit: 1-3. Mode of delivery: Lab. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 657 Section 005 Directed Study in Speech Pathology** *Credit: 1-3. Mode of delivery: Lab. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 657 Section 006 Directed Study in Speech Pathology** *Credit: 1-3. Mode of delivery: Lab. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term.*

- ASP 658 Section 001 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Ashley Harkrider (Spring).*
- ASP 658 Section 002 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Mark S. Hedrick (Spring).*
- ASP 658 Section 003 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patti M. Johnstone (Spring).*
- ASP 658 Section 004 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patrick N. Plyler (Spring).*
- ASP 658 Section 005 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 658 Section 006 Directed Study in Audiology** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Jong Ho Won (Spring).*
- ASP 659 Section 001 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Devin Casenhiser (Spring).*
- ASP 659 Section 002 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: Independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Mary L. Erickson (Spring).*
- ASP 659 Section 003 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Kristin King (Spring).*
- ASP 659 Section 004 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: Independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 659 Section 005 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: Independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Tim Saltuklaroglu (Spring).*
- ASP 659 Section 006 Directed Study in Speech Science** *Credit: 1-3. Mode of delivery: Independent study. Pre-Requisites: Consent of instructor May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 660 Section 001 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Ashley Harkrider (Fall); Dr. Ashley Harkrider (Spring).*
- ASP 660 Section 002 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Mark S. Hedrick (Spring).*
- ASP 660 Section 003 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: Independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patti M. Johnstone (Spring).*
- ASP 660 Section 004 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Patrick N. Plyler (Spring).*

- ASP 660** **Section 005 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: independent study. May be repeated up to 9 credit hours Offered: Offered every term.*
- ASP 660** **Section 006 Directed Study in Hearing Science** *Credit: 1-3. Mode of delivery: independent study. May be repeated up to 9 credit hours Offered: Offered every term. Instructor of Record: Dr. Jong Ho Won (Spring).*
- ASP 661** **Advanced Study in Child Language** *Credit: 3 Topics vary. Mode of delivery: Didactic. Pre-Requisites: ASP 561 or consent of instructor May be repeated up to 6 credit hours Offered: Fall. Instructor of Record: Dr. Ilsa Schwarz (Fall).*
- ASP 662** **Advanced Seminar in Audiologic Assessment** *Credit: 3 (48-0) Synthesis of information on audiologic and vestibular assessment and application of clinical cases. Mode of delivery: Didactic. Pre-Requisites: Permission of instructor Offered: (not currently offered).*
- ASP 663** **Advanced Topics in Aural Habilitation/Rehabilitation** *Credit: 3 Synthesis of information on audiologic habilitation and rehabilitation cases, particularly focusing on patient-centered care and counseling in audiology. Mode of delivery: Didactic. Pre-Requisites: ASP 543, ASP 544, ASP 584, and ASP 594 or consent of instructor Offered: Spring. Instructor of Record: Dr. Elizabeth Humphrey (Spring).*
- ASP 664** **Current Trends in Amplification** *Credit: 3 In depth analysis of current trends in amplification research and technology. Mode of delivery: Didactic. Offered: Spring. Instructor of Record: Dr. Patrick Plyler (Spring).*
- ASP 665** **Research Ethics** *Credit: 1 (16-0) Overview of professional and ethical principles guiding researchers and scholars. Mode of delivery: Didactic. Pre-Requisites: Admission into Ph.D. program in ASP or permission of instructor Offered: Offering: Every other year as needed.*

FACULTY LIST

- Ackerman, Terrence, Professor, 1977; Doctor of Philosophy, University of Rochester (1975)
- Adebiyi, Adebowe, Assistant Professor, 2004; Doctor of Philosophy, National University of Singapore (2004)
- Albritton, Lorraine, Professor, 1991; Doctor of Philosophy in Biomedical Sciences, The University of Tennessee, Knoxville (1986)
- Almoazen, Hassan, Assistant Professor, 2007; Doctor of Philosophy in Pharmaceutical Sciences, Long Island University (2002)
- Armstrong, William E., Professor, 1984; Doctor of Philosophy, Michigan State University (1979)
- Bailey, James E., Professor, 1994; Master of Public Health, University of Alabama at Birmingham (1992); Doctor of Medicine, University of Alabama at Birmingham (1990)
- Bumgardner, Joel, Associate Professor, 2006; Doctor of Philosophy in Biomedical Engineering, University of Alabama at Birmingham (1994)
- Buolamwini, John, Professor and Vice chair, 2000; Doctor of Pharmacy, University of Alberta (1990)
- Cagna, David Richard, Professor and Associate Dean, 2004; Doctor of Dental Medicine, Medical University of South Carolina (1990)
- Callaway, Joseph C., Associate Professor, 1995; Doctor of Philosophy in Zoology, University of Washington (1989)
- Casenhiser, Devin M., Associate Professor, 2011; Doctor of Philosophy in Linguistics, University of Illinois, Urbana – Champaign (2004); Master of Arts in Classics, University of Illinois, Urbana – Champaign (1998)
- Chauhan, Subhash, Professor, 2013; Doctor of Philosophy, H.N.B. Garhwal University (1997)
- Christian, James Mintzer, Associate Professor, 2010; Doctor of Dental Surgery, Temple University (1978)
- Clement, David J., Professor, 2012; Doctor of Dental Surgery, University of Minnesota (1981)
- Coday, Mathilda C., Associate Professor, 1993; Doctor of Philosophy in Psychology, University of Memphis (1992)
- Connor, Pamela D., Professor, 1987; Doctor of Philosophy in Health Education, University of Utah (1983)
- Cowan, Patricia A., Professor, 1996; Doctor of Philosophy in Nursing, University of Tennessee Health Science Center (1999)
- Cox, John V., Associate Professor, 1989; Doctor of Philosophy in Biology, University of Rochester (1984)
- Crowder, David H., Associate Professor, 1982; Doctor of Dental Surgery, University of Tennessee Health Science Center (1968); Master of Science in Orthodontics, University of Tennessee Health Science Center (1974)
- Curry, Amy de Jongh, Assistant Professor, 2001; Doctor of Philosophy in Biomedical Engineering, University of Memphis (1997)
- Dabbous, Mustafa K., Professor, 1970; Doctor of Philosophy in Biochemistry, University of Tennessee Health Science Center (1967)
- DeBon, Margaret W., Professor, 2003; Doctor of Philosophy in Psychology, University of Memphis (1995)

DiAngelo, Denis J., Professor, 1993; Doctor of Philosophy, McMaster University (1993)

Eckstein, Eugene, Professor, 1992; Doctor of Philosophy, Massachusetts Institute of Technology (1975)

Ennis, Matthew, Professor and Chair, 2003; Doctor of Philosophy in Neuroscience, New York University (1988)

Erickson, Mary Louise, Associate Professor, 1997; Doctor of Philosophy in Speech Science & Technology, University of Southern California (1989); Master of Music in Vocal Arts, University of Southern California (1984)

Fan, Meiyun, Assistant Professor, 2006; Doctor of Philosophy in Biochemistry & Molecular Biology, University of Arkansas for Medical Sciences (2000)

Fitzpatrick, Elizabeth A., Associate Professor, 2000; Doctor of Philosophy in Medical Microbiology and Immunology, Ohio State University (1990)

Fletcher II, Max, Assistant Professor, 2010; Doctor of Philosophy in Zoology, University of Oklahoma (2005)

Franklin, Brandi E., Assistant Professor, 2006; Doctor of Philosophy in Health Science Administration, University of Tennessee Health Science Center (2009)

Graff, Joyce Carolyn, Professor, 2001; Doctor of Philosophy, University of Kansas (2001); Master of Science in Nursing, University of Kansas (1988); Bachelor of Science in Nursing, Medical College of Georgia (1969)

Hackmyer, Steven P., Associate Professor and Chair, 2012; Doctor of Dental Surgery, New York University College of Dentistry (1978)

Haggard, Warren, Associate Professor, 2000; Doctor of Philosophy in Biomedical Engineering, University of Birmingham at Alabama (1994)

Hamilton, David J., Associate Professor, 2005; Doctor of Veterinary Medicine, Atlantic Veterinary College, University of Prince Edward Island (1992)

Hamman, Nathan Reed, Assistant Professor, 2004; Doctor of Dental Surgery, University of Tennessee Health Science Center (2007)

Hamre, Kristin Marie, Associate Professor, 1991; Doctor of Philosophy in Anatomy, University of Iowa (1991)

Hare, Marion Elizabeth, Associate Professor, 1990; Doctor of Medicine, University of Tennessee Health Science Center (1989); Master of Science in Epidemiology, University of Tennessee Health Science Center (2004)

Harkrider, Ashley W., Associate Professor, 1994; Doctor of Philosophy in Communication Sciences & Disorders, University of Texas at Austin (1999); Master of Arts in Audiology, University of Tennessee, Knoxville (1995)

Harris, Edward F., Professor Emeritus, 1980; Doctor of Philosophy, Arizona State University (1977)

Hassid, Aviv I., Professor, 1984; Doctor of Philosophy in Chemistry, University of Minnesota (1974)

Hathaway, Donna K., Distinguished Professor, 1984; Doctor of Philosophy in Nursing, University of Texas at Austin (1984)

Hedrick, Mark S., Professor, 1997; Doctor of Philosophy in Hearing & Speech Sciences, Vanderbilt University (1991)

Hong, Song Hee, Associate Professor, 2006; Doctor of Philosophy in Pharmacy, University of Texas at Austin (1997)

Howe, Martha M., Professor, 1986; Doctor of Philosophy in Biology, Massachusetts Institute of Technology (1972)

Humphrey, Elizabeth Lynn, Clinical Assistant Professor, 1999; Doctor of Audiology, University of Tennessee, Knoxville (2005); Master of Arts in Audiology, University of Tennessee, Knoxville (2003); Bachelor of Arts in Audiology, University of Tennessee, Knoxville (2001)

Johnstone, Patti Michele, Associate Professor, 2006; Doctor of Philosophy in Communicative Disorders, University of Wisconsin – Madison (2006); Master of Arts in Communicative Disorders & Sciences, State University of New York, Buffalo (1984)

Jordan, Irma L., Assistant Professor, 1997; Doctor of Nursing Practice, University of Tennessee Health Science Center (2010); Master of Science in Nursing, University of Tennessee Health Science Center (1998); Bachelor of Science in Nursing, University of Tennessee Health Science Center (1997)

Kelly, Brian P., Assistant Professor, 1999; Doctor of Philosophy, University of Tennessee Health Science Center (2005)

King, Kristin Anne, Assistant Professor, 2008; Doctor of Philosophy in Communication Sciences & Disorders, East Carolina University (2008); Master of Science in Speech-Language/Auditory Pathology, East Carolina University (1996)

Kocak, Mehmet, Assistant Professor, 2011; Doctor of Philosophy in Mathematical Sciences, University of Memphis (2011)

Li, Wei, Associate Professor, 1999; Doctor of Philosophy in Chemistry, Columbia University in the City of New York (1999)

Lindner, Erno, Professor, 2005; Doctor of Science in Analytical Chemistry, Hungarian Academy of Sciences (1994); Doctor of Philosophy in Analytical Chemistry, Technical University of Budapest (1985)

Livada, Rania, Assistant Professor, 2011; Doctor of Dental Surgery, National and Kapodistrian University of Athens (2003); Master of Science in Dentistry, University of Alabama at Birmingham (2009)

Lloyd, Adam, Associate Professor and Chair, 2009; Bachelor of Dental Surgery, University of Wales (1994); Master of Science, Baylor College of Dentistry (2003)

Lowe, Tao, Associate Professor, 2011; Doctor of Philosophy in Polymer Chemistry, University of Helsinki, Finland (1998)

Lou, Jennifer, Assistant Professor, 2013; Doctor of Dental Surgery, University of North Carolina at Chapel Hill (2008)

Magid, Richard Allen, Adjunct Assistant Professor, 2005; Doctor of Philosophy in Biomedical Engineering, Georgia Institute of Technology (2003)

Mandrell, Timothy D., Professor and Chair, 1991; Doctor of Veterinary Medicine, University of Tennessee, Knoxville (1984)

Maness, Holland, Assistant Professor, 2013; Doctor of Dental Medicine, Georgia Health Sciences University (2002)

McGuire, Judith W., Associate Professor, 2012; Doctor of Dental Medicine, Medical College of Georgia (1977)

Meibohm, Bernd, Professor and Associate Dean, 1999; Doctor of Natural Sciences, Technical University Carolo-Wilhelmina (1994)

Mihalko, William M., Professor, 2008; Doctor of Philosophy, Virginia Commonwealth University (1993)

Mozhui, Khyobeni, Assistant Professor, 2003; Doctor of Philosophy, University of Tennessee Health Science Center (2009)

Nelson, David R., Associate Professor, 1994; Doctor of Philosophy in Biochemistry, University of Texas Health Science Center at San Antonio (1985)

Nouer, Simonne S., Assistant Professor, 2007; Doctor of Philosophy in Tropical Medicine, Federal University of Goias (2006)

Nutting, David F., Associate Professor, 1971; Doctor of Philosophy in Physiology and Biochemistry, Duke University (1969)

Ostrom, Rennolds S., Associate Professor, 2003; Doctor of Philosophy in Pharmacology and Toxicology, University of California, Irvine (1998)

Paprocki, Gregory J., Assistant Professor, 2011; Doctor of Dental Surgery, University of Minnesota (1983)

Park, Edwards A., Professor, 1991; Doctor of Philosophy in Physiology, Pennsylvania State University (1984)

Parris, William, Associate Professor, 1985; Doctor of Dental Surgery, University of Tennessee Health Science Center (1983); Master of Science in Orthodontics, University of Tennessee Health Science Center (1985)

Plyler, Patrick Norton, Professor, 2003; Doctor of Philosophy in Speech and Hearing Science, University of Tennessee, Knoxville (1998); Master of Arts in Audiology, University of Tennessee, Knoxville (1993); Bachelor of Science in Speech-Language Auditory Pathology, East Carolina University (1992)

Rawal, Swati Y., Associate Professor, 2006; Bachelor in Dental Surgery, Calcutta University (1987); Master of Science in Dentistry, Ohio State University (2004)

Rawal, Yeshwant B., Associate Professor, 2005; Bachelor in Dental Surgery, Annamalai University (1986); Master of Science in Dentistry, Ohio State University (2005)

Richey, Phyllis, Associate Professor, 1990; Doctor of Philosophy in Exercise Science, University of Mississippi (1996)

Roan, Esra, Assistant Professor, 2010; Doctor of Philosophy in Mechanical Engineering, University of Cincinnati (2007)

Robitaille, Kimberly, Instructor, 2009; Doctor of Philosophy, University of Tennessee Health Science Center (2012)

Ryan, James Patrick, Associate Professor and Assistant Chair, 1988; Doctor of Philosophy in Microbiology, University of North Carolina at Chapel Hill (1985)

Saltuklaroglu, Tim, Associate Professor, 2004; Doctor of Philosophy in Communication Sciences & Disorders, East Carolina University (2004)

Scarbecz, Mark, Professor, 1999; Doctor of Philosophy in Sociology, University of Arizona (1991)

Schwarz, Ilsa, Professor, 2002; Doctor of Philosophy in Speech Pathology and Audiology, University of Oregon (1982); Master of Science in Speech Pathology and Audiology, University of Oregon (1979)

Schuetz, Erin Gallagher, Associate Professor, 1997; Doctor of Philosophy in Pathology, Virginia Commonwealth University (1983)

Scroggs, Reese Schiller, Associate Professor, 1992; Doctor of Philosophy in Pharmacology, University of Illinois, Chicago (1989)

Seagroves, Tiffany, N., Associate Professor, 2005; Doctor of Philosophy in Cell & Molecular Biology, Baylor College of Medicine (1999)

Senogles, Susan E., Professor and Vice Chair, 1989; Doctor of Philosophy in Biochemistry, University of Minnesota (1984)

Smith, Richard A., Associate Professor, 1983; Doctor of Philosophy in Cell Biology, University of Memphis (1997)

Solomon, David K., Professor, 1990; Doctor of Pharmacy, University of Tennessee Health Science Center (1970)

Stein, Sidney H., Associate Professor, 1998; Doctor of Dental Medicine, Washington University in St. Louis (1982); Doctor of Philosophy in Microbiology and Immunology, University of Rochester (1992)

Suttle, Dale Parker, Associate Professor, 1993; Doctor of Philosophy in Chemistry and Biochemistry, University of Texas at Austin (1975)

Sweatman, Trevor W., Professor, 1983; Doctor of Philosophy in Clinical Pharmacology, Southampton University Medical School (1981)

Thomas, Fridtjof, Associate Professor, 2007; Doctor of Philosophy in Statistics, Stockholm University (2001)

Tipton, David A., Professor, 1984; Doctor of Dental Surgery, University of Tennessee Health Science Center (1978); Doctor of Philosophy in Biology, University of Memphis (1988)

Tolley, Elizabeth A., Professor, 1985; Doctor of Philosophy in Animal Science, Virginia Polytechnic Institute & State University (1981)

Tran, Nhu Quynh T., Assistant Professor, 2012; Doctor of Philosophy in Biology, University of Memphis (2011)

Trojan, Terry, Associate Professor and Chair, 2009; Doctor of Dental Surgery, University of Michigan (1970); Master of Science in Orthodontics, University of Michigan (1974)

Versluis, Antheunis, Professor, 2010; Doctor of Philosophy, University of Greenwich (1994)

Von Hapsburg, Deboah, Associate Professor, 2001; Doctor of Philosophy, University of Texas at Austin (2003) Bachelor of Science, University of Texas at Austin (1990)

Wan, Jim Y., Associate Professor, 1994; Doctor of Philosophy in Statistics, Yale University (1987)

Wang, Junling, Associate Professor, 2005; Doctor of Philosophy in Pharmaceutical Health Services Research, University of Maryland Baltimore (2005)

Wasson, Joseph L., Professor, 1964; Doctor of Dental Surgery, University of Tennessee Health Science Center (1960); Master of Science in Orthodontics, University of Tennessee Health Science Center (1962)

Waters, Teresa Meyer, Professor, 2000; Doctor of Philosophy in Health Economics, Vanderbilt University (1992)

Wells, Martha H., Assistant Professor, 2010; Doctor of Dental Medicine, Georgia Health Sciences University (2006), Master of Science in Restorative Dentistry, Ohio State University (2008)

White-Means, Shelley Irene, Professor, 1998; Doctor of Philosophy, Northwestern University (1983)

Wicks, Mona, Professor, 1987; Doctor of Philosophy in Nursing, Wayne State University (1992)

Wilson, Thaddeus, Associate Professor, 2000; Doctor of Philosophy in Medical Physics, University of Wisconsin - Madison (2000)

Won, Jong Ho, Assistant Professor, 2012; Doctor of Philosophy in Bioengineering, University of Washington (2010); Master of Science in Biomedical Engineering, Hanyang University (2005); Bachelor of Science in Mechanical Engineering, Hanyang University (2003)

Wood, George C., Professor, 1974; Doctor of Philosophy, University of Illinois at Chicago (1971)

Yazdi, Hamid, Assistant Professor, 2013, Doctor of Dental Surgery, University of Texas Health Science Center at Houston (2000), Post Graduate Certificate, University of Texas Health Science Center at Houston (2005)

Yates, Charles Ryan, Professor, 1994; Doctor of Pharmacy, University of Tennessee Health Science Center (1997)

Yen, Mike, Professor, 2006; Doctor of Philosophy in Engineering Science & Bioengineering, University of California, San Diego (1973)

Zarzaaur Jr, Ben, Associate Professor, 1996; Doctor of Medicine, University of Alabama (1996); Master of Public Health, University of North Carolina - Chapel Hill (2006)



2013-2014 Catalog

COLLEGE *of* MEDICINE

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Website: www.uthsc.edu/Medicine/

David M. Stern, MD
Executive Dean

Dean, College of Medicine — Memphis

David C. Seaberg, MD, CPE, FACEP
Dean, College of Medicine — Chattanooga

James Neutens, PhD
Dean, College of Medicine — Knoxville

Robert G. Shreve, EdD
Associate Dean, Office of Medical Education

Owen Phillips, MD
Associate Dean, Admissions and Student Affairs

Eugene Mangiante, Jr., MD
*Associate Dean, Graduate Medical Education
and Continuing Medical Education*

Polly Hofmann, PhD
Associate Dean, Faculty Affairs

Tim Mashburn, MBA
Associate Dean, Finance and Administration

James Lacey Smith, MD
Associate Dean, Clinical Affairs

GENERAL INFORMATION

Mission Statement

The mission of The University of Tennessee College of Medicine is to improve the health of Tennesseans and our society as a whole by providing an exceptional and nurturing environment for the education of students and physicians, by contributing to advances in medical science, and by providing health services of the highest quality.

Message from the Dean

Medical school provides the basis for a career that is among the most rewarding possible. The curriculum is demanding and requires your total effort. Our programs are exciting and innovative, combining the solid foundation needed for a great medical education, while instilling the habits and tools that are necessary to assimilate the rapid changes that will occur in the future.

Our faculty members are dedicated to providing the stimulus and environment to maximize your learning experience. The administration of the College is charged with providing support to you, as students, through our faculty and facilities that will ensure your development as practitioners who are as concerned about improving patient care as you are about providing care. The Dean's office is available to you. We hope that you will take full advantage of the opportunities offered by all aspects of the College of Medicine.

David M. Stern, M.D.
Executive Dean, College of Medicine

Accreditation

The College of Medicine is a member of the Association of American Medical Colleges (AAMC) and is accredited by the Liaison Committee on Medical Education (LCME), which represents the Council on Medical Education of the American Medical Association and the AAMC. University of Tennessee College of Medicine Residency/Fellowship Training Programs are accredited through the Accreditation Council of Graduate Medical Education (ACGME). The College also is accredited by the Southern Association of Colleges and Schools (SACS) through the Health Science Center.

Historical Perspective

The University of Tennessee College of Medicine traces its origin to 1851 as the Medical Department of the University of Nashville. In 1909, the Medical Department of the University of Tennessee and the Medical Department of the University of Nashville were consolidated as The University of Tennessee Department of Medicine. The Department continued in the Nashville location for two years.

In 1911, the University of Tennessee Department of Medicine moved to Memphis and merged with the College of Physicians and Surgeons, founded in 1906, and with the Memphis Hospital Medical College, founded in 1876, to become The University of Tennessee College of Medicine. Later that same year, the name of the campus was changed to The University of Tennessee Medical Units, and the Colleges of Medicine, Pharmacy, and Dentistry were established.

In the early 1970's, the College moved toward a statewide system of medical education with the development of clinical education centers external to the Memphis campus. Since the opening of the Clinical Education Center in Knoxville in 1973, additional centers have been established in Chattanooga, Jackson, and Nashville. These centers have enabled the College to provide quality health care, education, and research throughout the State of Tennessee.

The designation of the campus as The University of Tennessee, Memphis -The Health Science Center was adopted in 1985 by The University of Tennessee Board of Trustees and was changed to The University of Tennessee Health Science Center in 1999. The College of Medicine has an enrollment of 165 students per class currently and has over 12,500 graduates.

Administrative Structure

The College of Medicine includes a primary campus located in Memphis, as well as clinical campuses located in Knoxville and Chattanooga, an internal medicine program in Nashville, and a Family Practice Center in Jackson. In 2006-07, the College governance was reorganized to include an Executive Dean, a Dean Memphis Campus, Dean Knoxville Campus, and Dean Chattanooga Campus. The College is organized into departments and centers representing the various clinical and biomedical science disciplines that are our research emphases. The campus dean appoints a chair for each department who is responsible for the total operation of the department including teaching, research, service, patient care, personnel administration, and financial affairs. A number of associate deans, also appointed by the Executive Dean, are responsible for specific administrative areas within the College statewide. They chair standing faculty committees established by the Dean to make recommendations regarding policies and programs. The standing committees and subcommittees of the College of Medicine are:

- Committee on Undergraduate Medical Education (CUME)*
 - Biomedical Sciences Subcommittee (BSS)*
 - Clinical Sciences Subcommittee (CSS)*
 - Subcommittee on Evaluation and Assessment (SEA)*
- College Appointment, Promotion and Tenure Committee (CAPT)
- Committee on Admissions*
- Committee on Continuing Medical Education
- Committee on Graduate Medical Education (CGME)*
- Progress and Promotions Committee for each class (P&P)
- Committee on Recognition and Awards*

**indicates the committees on which there are voting student members, nominated by the Medical Student Executive Council (MSEC) and appointed by the Executive Dean.*

Dean David M. Stern, M.D.

David M. Stern, M.D. is Executive Dean and Vice-Chancellor for Clinical Affairs for the University of Tennessee's College of Medicine and the University of Tennessee Health Sciences Center. He comes to this position after a career as a physician-scientist mainly at the College of Physicians & Surgeons of Columbia University, and administrative experience as a Dean at the Medical College of Georgia and University of Cincinnati's College of Medicine.

After completing college at Yale and medical school at Harvard, he completed his internship in internal medicine in 1978 College of Physicians & Surgeons of Columbia University. He became the Carrus Professor and Director of the Center for Vascular and Lung Pathobiology at Columbia. Dr. Stern's research work focused on properties of the blood vessel wall, especially in chronic vascular disorders such as diabetes and Alzheimer's disease.

He became Dean and Chief Clinical Officer at the Medical College of Georgia in Augusta in 2002. In July of 2005, Dr. Stern assumed the Deanship at the University of Cincinnati College of Medicine. In 2008, he also became the Vice-President for Health Affairs.

During his tenure at the University of Cincinnati, he catalyzed the formation of a Joint Cancer Program between the College of Medicine, University Hospital and Children's Hospital, recruited multiple department chairs and center/institute directors, completed a strategic plan for the College with its key partners, facilitated the securing of a CTSA award from the NIH, pushed the practice plan to increased clinical effectiveness and profitability, and designed a health system for the university with an urban and suburban campus, as well as a closely aligned physicians group.

He assumed the position of Executive Dean of the College of Medicine and Vice-Chancellor for Health Affairs at the University of Tennessee's Health Sciences Center in the spring of 2011.

Office of Medical Education

<http://www.uthsc.edu/Medicine/medicaleducation/>

The Office of Medical Education (OME) is responsible for the academic standards affecting the M.D. degree program in the College of Medicine. The Office oversees the development and implementation of policies and procedures affecting the academic progress, promotion, and graduation of medical students. The OME, in collaboration with faculty through the Committee on Undergraduate Medical Education (CUME) and its subcommittees coordinate the four-year medical student curriculum. The OME coordinates curricular activities across the three (3) campuses. It establishes and manages course and clerkship scheduling and assessment, and course and student evaluation. This Office enforces academic standards through appointment and coordination of Progress and Promotions Committees for each class.

Office of Admissions and Student Affairs

<http://www.uthsc.edu/Medicine/StudentAffairs/>

The Office of Student Affairs is concerned with the overall growth, development, and graduation of medical students. Thus, the goal of the Office is to meet students' individual needs and to serve in an advising capacity to various student activities. Programs sponsored by the Office of Student Affairs include: Freshman Orientation, Faculty Mentor Program, Peer Counseling Program, Student Publications, Residency Placement Assistance, Medical Student Performance Evaluation, Career Counseling, Student Organization Support Guidance, Student/Faculty Award Selections, Graduation Ceremonies, and the Caduceus Ball. Student Affairs personnel seek to enhance students' nonacademic experiences with a goal of assuring that problems are addressed before they have an adverse effect. Students with concerns, whether personal, financial, or social, should not hesitate to seek assistance.

The Office of Admissions oversees the admissions process for the College of Medicine. The Admissions Office advises prospective students, provides guided tours on interview days, manages the processing of application materials, screens applications as received, notifies applicants of interviews, and counsels unsuccessful applicants. The responsibility of the selection of students for admission to the College of Medicine is delegated to the Committee on Admissions by the Executive Dean under the authority of the Board of Trustees of the University. The Admissions Committee is charged with selecting those applicants who are deemed to be the most highly qualified for the study and practice of medicine. The Admissions Committee also establishes standards for admission to the College, which are approved by the College of Medicine, the Administration of The UT Health Science Center, and the University Board of Trustees.

Office of Graduate Medical Education

<http://www.uthsc.edu/GME/>

The University of Tennessee College of Medicine's commitment to medical education is to provide "a broad array of programs targeted at the education and training of physicians at the undergraduate, graduate, and postgraduate levels." As the responsible institution for all ACGME accredited residency programs, the College of Medicine is responsible for the administrative oversight and academic quality of the residency programs that it sponsors. The policies of the University of Tennessee and College of Medicine govern the administration of the residency programs. Each resident is registered as a graduate student in the College of Medicine, and all residents are paid and provided benefits by the University of Tennessee. The UT GME Program is a statewide program with over 900 residents training in participating hospitals located in Chattanooga, Jackson, Knoxville, Memphis and Nashville.

Office of Faculty Affairs

<http://www.uthsc.edu/Medicine/facultyaffairs/>

The Office of Faculty Affairs is responsible for issues relating to the COM faculty including recruitment, orientation, and faculty development. The office is responsible for the development and interpretation of policies and procedures for promotion and tenure, supporting the work of the COM Academic Appointments, Promotion and Tenure Committee (CAPT), grievance and appeal procedures, annual faculty performance evaluation, annual reappointment letters, and faculty retention.

DEGREES OFFERED

The University of Tennessee College of Medicine offers an educational program leading to the Doctor of Medicine (M.D.) degree. The College of Medicine also participates in the Doctor of Medicine/Doctor of Philosophy (M.D./Ph.D.) combined degree program, with the College of Graduate Health Sciences. In 2011, the College of Medicine initiated a six-year, combined program with the Oral and Maxillofacial Surgery (OMFS) program at the University of Tennessee Graduate School of Medicine in Knoxville (OMFS/MD).

Program Modification Statement

The faculty of the College of Medicine reserves the right to make changes in curriculum, policy and procedures when, in its judgment, such changes are in best interest of students and the College of Medicine. Ordinarily, a student may expect to receive a degree by meeting the requirements of the curriculum, as specified in the catalog currently in force when they first enter the college, or in any one subsequent catalog published while they are a student. However, the College of Medicine is not obligated to fulfill this expectation, or to offer in any particular year, a course listed in the catalog.

ACADEMIC CALENDAR 2013 – 2014

| Date | Activity | Class |
|---|--|----------------|
| Monday, July 1, 2013 | Tuition and Fees Due, Fall Term | M3, M4 |
| Monday, July 1, 2013 | Fall Term Clerkships Begin | M3, M4 |
| Monday, Aug 12, 2013 | Tuition and Fees Due, Fall Term | M1, M2 |
| Monday, Aug 12, 2013 | Class Begins | M1, M2 |
| Monday, Sept 2, 2013 | University Holiday (Offices Closed) | M1, M2 |
| Saturday, Nov 23, 2013 | Fall Break Begins | M3, M4 |
| Thursday, Nov 28, 2013 | Fall Break Begins | M1, M2 |
| Sunday, Dec 1, 2013 | Fall Break Ends | M1, M2, M3, M4 |
| Friday, Dec 13, 2013 | Fall Graduation | M4 |
| Friday, Dec 20, 2013 | Fall Term Clerkships End | M3, M4 |
| Friday, Dec 20, 2013 | Last Day of Classes/Fall Term Ends | M1, M2 |
| Mon, Dec 23, 2013 – Fri, Dec 27, 2013 | University Holiday (Offices Closed) | All |
| Wed, Jan 1, 2014 | University Holiday (Offices Closed) | All |
| Thurs, Jan 2, 2014 | Tuition and Fees Due, Spring Term | All |
| Monday, Jan 6, 2014 | Classes Resume | All |
| <i>Monday, Jan 20, 2014</i> | <i>Martin Luther King Holiday (Offices Closed)</i> | <i>All</i> |
| Friday, Mar 14, 2014 | M2 Classes End | M2 |
| <i>Sat, Mar 8, 2014 – Sun, Mar 16, 2014</i> | <i>Spring Break</i> | <i>M1</i> |
| <i>Friday, Apr 18, 2014</i> | <i>University Holiday (Offices Closed)</i> | <i>All</i> |
| <i>Sat, Mar 29, 2014 – Sun, Apr 6, 2014</i> | <i>Spring Break</i> | <i>M3, M4</i> |
| Friday, Apr 25, 2014 | End of M2 Curriculum | M2 |
| <i>Monday, May 26, 2014</i> | <i>University Holiday (Offices Closed)</i> | <i>M1</i> |
| Friday, May 30, 2014 | Graduation | M4 |
| Friday, May 30, 2014 | Classes End | M1, M3 |
| Friday, June 27, 2014 | Spring Term Ends | M1, M3 |

ADMISSION REQUIREMENTS AND SELECTION

Admissions

The University Tennessee College of Medicine admits a class of 165 students in August each year. Applicants must be citizens or permanent residents of the United States at the time of application. Applications are accepted from:

- Tennessee residents;
- Residents of the eight states contiguous to Tennessee - Mississippi, Arkansas, Missouri, Kentucky, Virginia, North Carolina, Georgia, and Alabama;
- Children of UT System alumni regardless of their state of residence.

As a state supported institution, qualified Tennesseans are given priority in each entering class. A maximum of ten percent of the matriculants may be non-residents; therefore, nonresidents must possess superior qualifications to be seriously considered for admission. The College of Medicine uses the American Medical College Application Service (AMCAS). Applications must be received by AMCAS no later than November 15 of the year prior to admission. Upon initial review of AMCAS application, a secondary application is forwarded to applicants considered competitive for further review by the Committee on Admissions. The AMCAS application can be found at:

<https://www.aamc.org/students/applying/amcas/>.

Three major areas are considered in admissions decisions: undergraduate academic preparation and achievement; personal qualities as assessed from interviews with members of the Committee on Admissions, the pre-professional evaluation, recommendations, and the personal statement included in the application; and scores on the Medical College Admissions Test (MCAT). Each of these areas is important with no one area seen as more significant in the admission decision than another. The Committee on Admissions evaluates nonacademic, as well as, academic factors in the selection process, with consideration being given to the unique backgrounds and challenges of these applicants. The University of Tennessee Health Science Center requires that all students undergo a criminal background check, document proper immunizations, and show evidence of health insurance prior to matriculation.

Technical Standards for Admissions, Retention, and Graduation

The goal of the UTHSC College of Medicine is the broad preparation of students for the practice of medicine. This goal is achieved in part by undergraduate medical education, postgraduate medical education and preparation for life-long learning. Modern medical education requires that the accumulation of scientific knowledge be accompanied by the simultaneous acquisition of skills and professional attitudes and behavior. Our faculty has the responsibility to graduate the best possible physicians; thus, admission to medical school is offered to those who present the highest qualifications for the study and practice of medicine.

Applicants to the UTHSC College of Medicine must possess the following general qualities: critical thinking, sound judgment, emotional stability and maturity, empathy, physical and mental stamina and the ability to learn and function in a wide variety of educational settings. In all phases of medical education, students of medicine must use their intellectual ability and must maintain emotional stability, particularly when under stress. Graduates of the College of Medicine must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care.

The Committee on Admissions maintains that prospective students must meet certain minimum technical standards. These standards must be maintained throughout a student's enrollment and graduation. Candidates for the M.D. degree must have the following essential functions: motor skills; sensory and observational skills; communication skills; conceptual, integrative and quantitative skills; and behavioral and social skills and professionalism.

Motor Skills

Candidates should have sufficient motor function to elicit information from patients by palpation, auscultation, percussion, and other diagnostic maneuvers. Candidates should be able to execute motor movements necessary to provide general care and emergency treatment to patients.

Sensory and Observational Skills

Candidates must be able to observe demonstrations and participate in experiments as required in the curriculum. They must be able to observe a patient accurately at a distance as well as close at hand and be able to obtain a medical history directly from the patient, while observing the patient's medical condition. This observation necessitates the functional use of the sense of vision, hearing, and other sensory modalities.

Communication Skills

Candidates must be able to communicate effectively and sensitively in oral and written form with patients. These skills must be demonstrated at times in clinical settings when the time available for communication may be limited.

Conceptual, Integrative, and Quantitative Skills

These skills include measurement, calculation, reasoning, analysis, and synthesis. Problem solving and diagnosis, the critical skills demanded of physicians, require all of these intellectual abilities. In addition, candidates must be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures.

Behavioral and Social Skills, and Professionalism

Empathy, integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities that will be assessed during the admissions process and throughout medical education. Candidates must possess the emotional well-being required for the full use of their intellectual abilities; the exercise of sound judgment; the prompt completion of all responsibilities attendant to the diagnosis and care of patients; and the development of mature, sensitive, and effective relationships with patients. Candidates must be able to tolerate physically taxing workloads and to function effectively when stressed. They must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of the uncertainty inherent in the clinical problems of many patients.

In summary, the mission of the faculty is to prepare students for the comprehensive practice of medicine. The Committee on Admissions and the College of Medicine, in accordance with Section 504 of the 1973 Vocational Rehabilitation Act and the Americans with Disabilities Act (ADA) {Public Law 101 -3367}, has established the aforementioned essential functions of medical students and physicians. The Committee on Admissions will consider applicants for admission who demonstrate the ability to perform or to learn to perform the essential skills listed in this document. The College must ensure that patients are not placed in jeopardy by students or physicians with substantially impaired intellectual, physical, or emotional functions. Students will be judged not only on their scholastic accomplishments, but also on their physical and emotional capacities to meet the full requirements of the school's curriculum and to graduate as skilled and effective practitioners of medicine.

Undergraduate Academic Preparation

Because the College of Medicine recognizes the importance of a broadly based undergraduate education in the liberal arts and sciences, no specific major is required for medical school admission. Prospective candidates are encouraged to major in their area of greatest interest; and regardless of choice of major, are encouraged to pursue a course of study which achieves a balance between both science and non- science course work. Further, because of the relevance of a broadly based education to success in medical school, the Committee is particularly impressed by students whose education has provided a range of intellectual experience, including opportunities for analytical thinking and independent study. With rare exception, the completion of an undergraduate degree will be necessary in order to fulfill educational expectations. In addition to the pattern and content of courses taken, consideration is given to achievement in these courses. Generally, the grade point average for entering classes is 3.6 overall and in prescribed course work. In support of this philosophy of education, the following are the only courses required for admission:

REQUIRED COURSES

| Subjects | Semester Credit Hr. |
|--------------------------------|----------------------------|
| Biology | 8 |
| General Chemistry | 8 |
| Organic Chemistry | 8 |
| Physics | 8 |
| English Composition/Literature | 6 |
| Electives | <u>52</u> |
| TOTAL | 90 |

Chemistry

A minimum of sixteen semester credit hours of chemistry is required, eight semester credit hours of organic chemistry and eight semester credit hours of inorganic chemistry, which may include analytical chemistry. Each of these courses must be a complete, standard, college-level course utilizing full laboratory facilities. In instances where students feel uncertain of their preparation in chemistry and wish to take additional course work, biochemistry is recommended.

Physics

Acceptable courses in physics must include laboratory credits and must adequately cover mechanics, heat, light, sound, electricity, and magnetism. Survey types of courses will not satisfy this requirement.

Biology

Eight semester credit hours in modern concepts of mammalian biology, including laboratory are required. Courses in botany do not meet this requirement. Applicants, particularly non-science majors, are strongly encouraged to pursue upper level coursework in the biological sciences beyond the minimum requirement. Such courses might include biochemistry, cell biology, comparative anatomy, embryology, general genetics, histology, immunology, mammalian physiology, microbiology or related courses.

English Composition

Facility in the use of both oral and written English is considered highly essential to the successful study of medicine. Introductory freshman English (six semester credit hours) will meet the admission requirement. Students who qualify for advanced placement credit in English will not be required to take additional English courses, although they are encouraged to do so.

Electives

In as much as the medical curriculum is devoted largely to the biological and physical sciences, a student should acquire a broad cultural background in the pre-medical preparation. The behavioral sciences, including psychology, sociology, etc., are considered valuable. Additional dimensions are derived from higher mathematics, computer sciences, languages, literature, philosophy, history, political science, economics, etymology and statistics.

Advanced placement credit or other non-traditional credit in prescribed science courses will be honored in fulfilling requirements for the College of Medicine, provided such placement has been followed by a more advanced course in the same discipline. (Example: A student granted credit for biology will be required to complete the eight semester hour requirement by taking advanced courses in that discipline.) The Committee on Admissions will consider grade averages attained in both prescribed and elective courses. A grade of "C" or better in each of the prescribed pre-medical courses is required. If a prospective student is uncertain of the acceptability for premedical credit of a proposed course of study, and if the pre- professional advisor cannot advise in the matter, the prospective student is invited to make inquiry to the Office of Admissions, College of Medicine, University of Tennessee Health Science Center, Memphis, TN 38163.

Medical College Admission Test (MCAT)

Candidates admitted to the College of Medicine must achieve a satisfactory score on the MCAT. Average scores for recent entering classes have been 10's in each subject area (total of 30). The MCAT is offered over 25 times a year on a national basis by the Association of American Medical Colleges (AAMC). Registration for the MCAT is done online through the AAMC at <https://www.aamc.org/>. The test must be taken no later than September of the year preceding the desired date of admission. The College of Medicine will accept scores taken no longer than 5 years prior to the year of desired matriculation.

Additional Considerations for Admissions

Personal Qualities and Motivation toward Medicine

An applicant's interest in and motivation toward the medical profession is an important factor in the admissions decision. In order to assess the motivation and personal qualities of an applicant, selected individuals are invited to campus for interviews with members of the Committee on Admissions. Both academic achievement and MCAT scores are considered by the Committee in determining who will be invited to interview. Each year, 450-500 applicants are invited for admission interviews. Interviews take place between October and March.

The personal statement on the application and evaluations submitted on behalf of the candidates allow further insight into the values and motivation of the candidates. An evaluation from the official Pre-professional Advisory Committee (where such a committee exists), or letters from three faculty members, is required.

A maximum of three additional recommendations may be submitted.

Medical Experience

The Committee of Admissions considers it vital that prospective students enhance their knowledge of medicine through direct, patient-centered clinical experience in a variety of settings. Such experience, which is frequently gained through volunteer work, should provide a greater understanding of the realities of medicine as well as an opportunity for service.

Deferred Matriculation

Students who are accepted for admission are offered the opportunity of deferring their matriculation for one year, with a guaranteed position in the following class. During the intervening period, students may earn money to finance their medical education, take advantage of additional educational experiences they may not have pursued otherwise, or take care of personal or family obligations. Those who desire to delay their entrance must notify the Chair of the Committee on Admissions of the College of Medicine in writing by July 1, prior to the originally scheduled enrollment date.

Advanced Standing

Transfer or advanced standing applications will be considered for the third year only. Regardless of availability of spaces, only students clearly demonstrating outstanding academic and personal achievement will be considered for transfer into the third year of the College of Medicine curriculum. The selection of transfer students is on a competitive basis. Deadline for application is April 1. In order to be considered by the Committee on Admissions, a candidate must supply evidence of the following:

- The completion of the basic requirements for admission to the College of Medicine, including Tennessee residency⁴⁰ at the time of admission to the medical school in which the student has been enrolled;
- Satisfactory completion of the equivalent of the biomedical sciences portion of the College of Medicine curriculum at an LCME accredited institution and be in good academic standing;
- A passing score on the Step 1 United States Medical Licensing Examination; and,
- Evidence of circumstances necessitating a transfer.

Diversity/Groups Underrepresented in Medicine

The College values diversity in its medical education programs. Individuals from different backgrounds and experiences not only enhance the quality of education for all students, but also translate into graduates who are more effective and better prepared to serve multiple patient populations. The UT Health Science Center College of Medicine actively encourages applications from members of groups who are underrepresented in medicine, e.g., students from ethnic minority groups underrepresented in medicine, rural areas, disadvantaged socioeconomic or educational backgrounds, or students with past or present military service. The Committee on Admissions evaluates nonacademic, as well as, academic factors in the selection process, with consideration being given to the unique backgrounds and challenges of these applicants. Among American medical schools, the UT Health Science Center College of Medicine is a national leader in the admissions, matriculation, and graduation of students from groups underrepresented in medicine.

Full-time Status

The College of Medicine enrolls full time students only for the M.D. degree. Part-time students are not accepted. Students may not drop or add specific courses during the first or second year due to the full-time nature of the curriculum.

⁴⁰ By right of official affiliation with the UT College of Medicine, immediate family members of UT faculty and interns or residents selected for UT programs may apply for admission with advanced standing regardless of state of residence. However, as always, the candidates' credentials will be the sole determinant of admission.

TUITION, FEES, EXPENSES

Tuition, Fees, and Estimated Cost of Attendance

The Bursar's Office is a unit of the UT Health Science Center Office of Finance and Operations. The mission of the Bursar's Office is to serve the student community by providing assistance with receivable accounts and various other financial activities. The Bursar's Office also functions as the central depository for the UTHSC. Information about tuition and fees for the individual programs in the College of Medicine may be found at http://www.uthsc.edu/finance/bursar/colleges_fee_information.php with additional information regarding estimated cost of attendance at <http://www.uthsc.edu/finaid/coa.php>.

Book, Computer, and Equipment Expenses

Outside of certain college expenses where cost is "fixed," the most expensive single item that students face is the purchase of books - required or recommended. Following are suggested guidelines regarding the purchase of textbooks:

- Wait to buy any textbook until the instructor has been consulted or has held a class. The bookstore typically has a sufficient number of all required textbooks.
- Consider buying used textbooks from bulletin board notices or the Medical Student Executive Council (MSEC) book sale at the beginning of each term.
- Consult upperclassmen for advice on textbooks and about the possibility of borrowing/buying their books.
- Check the Health Sciences Library (HSL) website. The HSL offers a number of electronic resources, journal and textbooks at no charge (<http://library.uthsc.edu/>).

Students may access the required books for any and all the courses in their professional program by going to the following link to the Bookstore on the UTHSC website: www.uthsc.bncollege.com.

Students are required to purchase certain clinical equipment as outlined in the website for use in M1- M4 courses (http://www.uthsc.edu/Medicine/medicaleducation/students/instrument_list.php).

All incoming students to the UT College of Medicine are required to have a laptop computer that is capable of access to the Internet. The College of Medicine provides students with access to campus-based computer labs, but due to the limited number of workstations available and use by other colleges, it is necessary for students to have their own computers.

Students who plan to use their current laptop computers must ensure the equipment meets the minimum requirements outlined below to allow for adequate connectivity to UT systems. Newly-purchased laptop computers should meet the minimum recommendations. Computers must have programs capable of network connection to the Internet, and of performing basic functions in word processing, spreadsheet calculations, multimedia (imaging, video, and sound) and e-mail. Students are also advised to purchase a printer. An Audience Response device (clicker) is required for classroom use. Costs of a computer, Internet connection, printer, and software may be included in financial aid requests (iPad, Android, etc.). In addition, we recommend students consider purchasing a tablet computer. Computer specifications can be found at http://www.uthsc.edu/Medicine/medicaleducation/computer_requirement.php.

National Board Exams

All students are required to register passing scores on the United States Medical Licensure Exams (USMLE). Students will take USMLE Step 1, USMLE Step 2 CK (Clinical Knowledge), and USMLE Step 2 CS (Clinical Skills) exams. Step 1 and Step 2 CK exams currently cost \$560 each. Step 2 CS costs \$1200, plus the cost for travel and overnight lodging at one of the five national Clinical Skills Evaluation Collaboration (CSEC) testing centers (<http://www.usmle.org/step-2-cs/#testcenters>).

Residency Interviewing

Fourth-year medical students participate in the National Residency Match Program (NRMP) to secure a residency position. The National Resident Matching Program (NRMP) is a private, not-for-profit corporation established to provide a uniform date of appointment to positions in graduate medical education (GME) in the United States. Student should anticipate registration fees. Most of the costs related to securing a residency is associated with interviewing. In addition to travel and accommodations, there are incidental expenses for which you must budget - everything from the cost of cabs, to your attire and meals.

Medical Student Medical Liability Insurance Coverage

Medical students enrolled in the COM UTHSC have liability insurance for clinical activities performed while under the direction of UT faculty (regular and clinical faculty) and/or residents. Medical students are also covered if enrolled in preapproved visiting electives at outside institutions. Medical students are not covered for clinical activities performed outside UTHSC or under the supervision of non-University faculty or residents.

SCHOLARSHIPS AND FUNDING

Financial Aid

The University of Tennessee Health Science Center offers a comprehensive financial aid program to qualified students on the basis of need and ability. Financial aid is available to students in the form of grants, scholarships, loans, and part-time work. The University of Tennessee Health Science Center believes that the cost of education is the primary responsibility of the student and/or the student's family. The purpose of aid is to reduce the difference between the cost of education and what a family can reasonably be expected to pay. A limited number of aid programs are available that do not require that students establish need. Personnel in the Financial Aid Office are available to help students explore possible financial aid sources to meet their individual needs. The goal of the office is to see that students do not forego an education because of financial need.

Careful and realistic financial planning is a necessary part of college preparation. Other services offered by the Financial Aid office include budget counseling, debt management information, and pre-loan counseling.

The Free Application for Federal Student Aid ([FAFSA](http://fafsa.edu)) is the only application required for financial aid at the University of Tennessee Health Science Center. Students may access information regarding Financial Aid, including information on applying for financial aid, available scholarships, financial literacy counseling, and general student loan information at <http://www.uthsc.edu/finaid/>.

Emergency Loans

Emergency loans are available to medical students for up to \$500 through the Office of Student Affairs. Loans are based on need and availability of funds. Interest is approximately six percent (6%) per annum and repayment is within thirty days. Loans are based on need and availability of funds. Students experiencing financial difficulty are also encouraged to contact the Office of Financial Aid Services, 910 Madison Avenue Suite 520, (901) 448-5568.

Policy on Employment

The College of Medicine supports the view that a successful medical school experience requires a full time commitment on the part of most students. Medical students' primary responsibility must be to scholarship and to their academic pursuits. The College of Medicine recognizes that financing the cost of medical training may require, under very compelling circumstances, that some medical students seek employment during the academic year.

Any student considering employment is encouraged to contact the Office of Student Affairs to seek voluntary counseling. Students will be advised on (1) alternative employment options, especially those that promote further professional growth and development, (2) the impact that employment may have on academic performance, and (3) the availability of other sources of income.

Under no circumstances should the nature of the student's work experience misrepresent the level of professional skill or knowledge. In addition, the work experience should not require a level of time commitment that could adversely affect academic performance. It should be clearly understood that the minimal standards for progress and promotion must be met by all students, regardless of employment.

Scholarships

The following are merit-based scholarships offered to incoming medical students. Students are nominated for these awards by the Admissions Committee. Students are selected prior to matriculation by the Admission Scholarship Committee. The criteria for the awards are described below. The scholarship's renewal for all four years is contingent upon the student continuing to demonstrate the qualities outlined in the award. These include keeping a minimum GPA of 3.0, and demonstrating professionalism and leadership. The number of awards given is contingent on available funds.

George E. Bradford Scholarship. Selection based primarily on scholastic ability and dedication to the health sciences as a career and profession. Amount and duration of award determined by committee. Only students enrolled and in good academic standing shall be eligible to receive or continue to receive a Bradford Scholarship.

Holman Merit Scholarship. Awarded once every four years, the scholarship is for up to full tuition and fees. Family involvement; provisions for additional funds made at time of selection. Given to an incoming Merit Finalist. Family wants interaction with recipient during and after medical school and will add the funds at the beginning of each term/year to cover full tuition/fees.

James and Catherine Waters Memorial Scholarship. Awarded to one student per year in the sum of \$6000 on the basis of merit only. After selection, the Donors shall be apprised of the name, address, and other pertinent information concerning the recipient.

Louis Killeffer Merit Scholarship. Amount and duration of award determined by committee. Students must have excelled scholastically and be nominated at the time of their medical school interview. They must demonstrate leadership potential, further scholastic ability, a commitment to medicine and have outstanding personal qualities.

Dr. W. H. Pistole Scholarship. Students receive \$25,000 per year for four years, 2-3 awards can be given each year depending on availability of funds. Students must have excelled scholastically and be nominated at the time of their medical school interview. They must demonstrate leadership potential, further scholastic ability, a commitment to medicine and have outstanding personal qualities.

Alumni Merit Scholarship. An incoming student may be awarded \$12,500 each year. Students must have excelled scholastically and be nominated at the time of their medical school interview. They must demonstrate leadership potential, further scholastic ability, a commitment to medicine and have outstanding personal qualities.

Andrew D. Holt Scholarship. Students receive up to \$7,000 each (as funds are available). Students must have excelled scholastically and be nominated at the time of their medical school interview. They must demonstrate leadership potential, further scholastic ability, a commitment to medicine and have outstanding personal qualities.

Letitia G. Doggett Scholarship. Students receive up to \$25,000 each for four years. Students receiving these scholarships must be incoming students with demonstrated leadership potential, scholastic ability, have good academic standing, a commitment to medicine, and outstanding personal qualities.

Robert L. Summitt, MD Alumni Merit Scholarship. Students receive \$25,000, will be given each year for four years. Students must have excelled scholastically and be nominated at the time of their medical school interview. They must demonstrate leadership potential, further scholastic ability, a commitment to medicine and have outstanding personal qualities.

Leroy and Margaret Sherrill Scholarship. Students receive \$10,000 each of their four years. Students must have excelled scholastically and be nominated at the time of their medical school interview. They must demonstrate leadership potential, further scholastic ability, a commitment to medicine and have outstanding personal qualities.

Arthur R. Porter Memorial Scholarship. Students receive up to \$3,000 each for one year. Scholarships are for incoming students who demonstrate leadership potential, scholastic ability, a commitment to medicine, and outstanding personal qualities.

The following awards are given preferentially to students from diverse backgrounds (as defined in the UTHSC's Diversity Statement), i.e., those students in the opinion of the Admission's Committee whose presence in medical school will enhance the experience of all students. The student is eligible for this award for four years of study.

Tennessee Scholars Fund. Students receive \$10,000 each. Students must be Tennessee residents. Funds are awarded to incoming and current students.

Mid-South Scholarships. Students receive \$10,000 each. Funds are awarded to incoming students only.

Chancellor's Fund. Students receive \$10,000 each. Students receiving these scholarships must be incoming students and demonstrate a commitment to medicine.

Jesse H. Turner (MED) Scholarship. Students receive up to \$10,000 each. The students are selected by The MED Foundation administrators from a list of students nominated by the Admissions Committee. Students receiving these scholarships must be incoming students with demonstrated scholastic ability, a commitment to medicine, leadership potential, and have good academic standing. Students who are from Shelby County are given preference.

The following awards are given to enrolled students who demonstrate the qualities outlined in the fund's Memorandum. A Scholarship Selection Committee meets annually to award these scholarships. "Merit" is based on Cumulative GPA to date. "Financial Need" is based on a financial profile from the Financial Aid Office. The number of awards given is contingent upon available funds.

Roane County Medical Society Scholarship. Awarded to residents of Roane and Anderson Counties in TN, on the basis of financial need and scholastic attainment. Should an eligible and deserving recipient not be found in Roane or Anderson Counties in TN, scholarships may be awarded to eligible and deserving students residing anywhere in the State of Tennessee. Notify President of Roane/Anderson County Medical Society of the names/amounts of the awards.

Rona Jefferson Scholarship Fund. Students receive up to \$3,500 each. Students receiving these scholarships must be current students, have good academic standing and demonstrate a commitment to medicine.

J. W. Erwin Scholarship Fund. Qualified students receive \$2,000-5,000. Students receiving these scholarships must have demonstrated an interest in public health and be in good academic standing.

Billy and Sally Gore Medical Student Memorial. Students receive up to \$2,000 each. Students receiving these scholarships must have strong scholastic ability, a commitment to medicine, and financial need.

Montgomery Scholarship. Students receive up to \$3,000 each. Award is based on good academic standing, a commitment to medicine, and financial need.

Ousley Memorial Scholarship. Students receive up to \$2,000 each. Students receiving these scholarships must be current students, have demonstrated scholastic ability, and a commitment to medicine.

Albright Armstrong Rice Scholarship. Students receive up to \$2,000 each. Students receiving these scholarships must be current students, be in good academic standing, and demonstrate a commitment to medicine.

Chisolm-Phi Rho Sigma Fund. Students receive \$2,000 each. Students receiving these scholarships must be current students, be in good academic standing, and demonstrate a commitment to medicine.

Leon T. Banakas Scholarship Fund. Students receive up to \$2,000 each. Students receiving these scholarships must be current students, be in good academic standing, and demonstrate a commitment to medicine.

Robert Lee Hyder Scholarship. Students receive up to \$1,000 each. Scholarships available to current students only, who are in good academic standing.

Medicine Class of 1959. Students receive up to \$1,000 each (\$2,000 annually). Students receiving these scholarships must be current students only, in good academic standing, and have a commitment to medicine.

Dr. Smeltzer Sr. and Dr. Smeltzer Jr. Scholarship. Students receive up to \$2,000. Students receiving this scholarship must be current students in good academic standing. Previous holder preference.

John Lawson Memorial Scholarship. One student receives up to \$1,000. Students receiving this scholarship must be current students in good academic standing.

Reuben B. Rasar Scholar Fund. An annual award of up to \$1,000. Students receiving this scholarship must be current students in good academic standing. Previous holder preference.

Sahu Family Endowed Scholarship. Students receive a one-time award of \$1,000. Students receiving this scholarship may be incoming and current students, have good academic standing, and financial need.

Hardy and Cora Lee Graham Scholarship. Students receive up to \$2,000. Students receiving these scholarships must be current students. Preference given to underrepresented minorities in good academic standing. Based on merit and financial need.

Vinsant Family Scholarship Fund. Students receive up to \$1,000 each. Students receiving these scholarships must be current students in good academic standing, with a demonstrated commitment to medicine.

Dr. and Mrs. Lee A. Absher Memorial Scholarship. Students receive up to \$2,000. Students receiving this scholarship must be current students with a demonstrated commitment to medicine, and have good academic standing.

Harold H. Fry Family Scholarship. Students receive up to \$2,000. Students receiving this scholarship must be current students with an interest in public health, and be in good academic standing.

James L. Glass Memorial Scholarship. Students receive up to \$2,000. Students receiving this scholarship must be current students with demonstrated scholastic ability, and be in good academic standing.

Stern Merit Scholarship Fund. Students receive up to \$4,000 each. Students receiving these scholarships must be current students with a demonstrated commitment to medicine, and scholastic ability. Preference given to students who are underrepresented minorities as defined by the UTHSC's Diversity Statement.

Joseph Napoleon Mitchell and Nancy Harris. Students receive up to \$2,000 each. Students receiving these scholarships must be current students with a demonstrated scholastic ability, a commitment to medicine, and be in good academic standing.

Ephraim and Ruth Camp Merit Scholarship. Students receive up to \$3,000 each (\$126,000 annually). Students receiving these scholarships may be incoming or current students. Merit-based; students in good academic standing, demonstrated scholastic ability.

Grace Moulder Merit Scholarship. Students receive up to \$2,000. Students receiving these scholarships must be current students with demonstrated scholastic ability, a commitment to medicine, and be in good academic standing.

Charles J. Deere Merit Scholarship. Students receive up to \$2,000. Students receiving these scholarships must be current students with demonstrated scholastic ability, leadership ability, a commitment to medicine, and be in good academic standing.

Dr. Carolyn Benthall '77 Memorial Endowed. Students receive up to \$2,000. Students receiving these scholarships must be current students with demonstrated scholastic ability, a commitment to medicine, be in good academic standing, and financial need. Merit-based.

Margaret-Overton Miller Scholarship. Student receive up to \$2,000. Students receiving these scholarships must be incoming students, with demonstrated scholastic ability, and a commitment to medicine.

Dorothy Snider Scholarship Award. Students eligible for this award should be receiving other scholarships and this fund will match an amount up to that award. The awards are up to \$5,000. The Foundation considers this award to be a grant and requests awardees be aware that they have an obligation to consider donating the amount of money received from the Foundation back to the fund when they are able to ensure the perpetuity of the fund.

AMA Scholars Fund. Selection is made from the graduation class by the Dean/Dean's Designee on behalf of the College of Medicine Scholarship Committee. Funds are provided by the AMA Alliance and are awarded in the amount of \$5,000 each. The number of awards given is determined by the availability of funds.

Cannon Scholarship

Cannon Scholars. The Cannon family, in honor of Dr. Bland Cannon, has established a fund that recognizes third-year medical students for scholarship, humanism and professionalism. Students are nominated by their peers and faculty. The Cannon Selection Committee chooses 4-5 students for the award of \$4000-5000.

Hand Scholarship

Hand Scholars: The Hand family, in honor of Dr. Albert Hand, has established a fund that recognizes third-year medical students for scholarship, humanism and professionalism. Students are nominated by their peers and faculty. The Hand Selection Committee chooses three students for the award of \$5000.

GENERAL POLICIES AND PROCEDURES

Class Attendance

The instructional program in the biomedical sciences portion of the curriculum has been developed by the faculty to provide students with the knowledge and background necessary for the study of clinical medicine. Students are expected to attend the various experiences as an expression of their professional commitment and dedication. Some curricular experiences, because of their special nature (laboratories, small group conferences, Team-based Learning, active learning, self-directed learning and related activities), may be designated by faculty as **required experiences**. Students will be informed of these requirements at the beginning of the course. More specific requirements for attendance will be outlined in the course syllabi. Students are expected to be available and present for all scheduled clerkship activities.

Code of Professional Conduct

The University of Tennessee medical community believes that professionals gain their credibility by their commitment to society. As a professional group, we recognize our obligation to our patients, colleagues, community, families, and ourselves. Realizing that it is a privilege and an honor to be a medical professional, we the students, residents, fellows, and faculty of the UT Memphis College of Medicine embrace the following ideals:

- **Patient welfare is our primary concern**, for only by commitment do we justify the trust placed in us by patients and the community at large. Although we hold the acquisition of knowledge and the development of technical skills essential to patient care, we shall strive to balance the science with the art of medicine by maintaining respect and compassion for the dignity of all patients. Each patient shall receive our best efforts regardless of personal feelings or biases. Desires for social or economic gain shall not affect the honesty and integrity with which we deal with patients. Nor shall the pressures placed upon the members of our profession compromise the quality of care we provide.
- **Relationships with our colleagues** are an exceedingly important part of professional conduct. Our interactions with colleagues provide us a sense of support, trust, and sharing. As members of a professional community, we shall be aware that our personal conduct reflects upon others of that community. Professionalism includes being respectful in our communications and behavior toward colleagues and others. We shall avoid comments and actions that might reasonably be perceived as offensive or demeaning by others. This applies also to communications on web-based social media and other electronic media.
- We shall be willing to **share our knowledge and expertise** with colleagues and remain open to their advice and criticism. We shall know our own limitations and ask for advice when needed. We shall fulfill our own responsibility and, in the spirit of professional cooperation, accommodate a colleague if our assistance is requested. We shall be sensitive to the physical and emotional weaknesses of a colleague and shall lend support in time of need. Further, our responsibility to patient care implies identification of colleagues whose ability to provide care is impaired. This must be followed by our full support toward the rehabilitation of those colleagues, and their reintegration into the professional community.

- **Integrating personal growth into our professional development** is essential to our commitment to medicine. To this end, we shall be attentive to our needs for physical, spiritual, and emotional well-being. We shall allow time for personal and family relations which enrich our lives and promote self-knowledge. Attention to personal maturation, family commitments and professional growth represent a continuing challenge throughout our career.
- As medical professionals, we realize that **we share with all citizens certain civic duties**. We shall strive to be responsible citizens. Our professional status shall not be used as a means to power and control. Rather, we seek to offer informed and compassionate leadership.

Also refer to General Guidelines for Professional Behavior and Conduct in the Third- and Fourth-Year Clerkships in the section on Clerkship Policies.

Honor Code

The Honor Code of The University of Tennessee Health Science Center (UTHSC) is promulgated so that student academic affairs are conducted under the highest standards of individual responsibility. Students are bound by this Honor Code and pledge to act in accordance with the highest principles of ethical and professional conduct. These principles condemn any act of dishonor relating to the academic, clinical, research, and professional programs at UTHSC. The pledge states that any knowledge of a violation shall be reported in accordance with the provisions and procedures of the Honor Code. The College of Medicine's Honor Code has been in effect for more than 50 years. It is a tradition of which we are proud. Additional information may be found at:

<http://www.uthsc.edu/studentlife/honorcode.php>.

Excerpts from the Honor Council Statement, College of Medicine, written by members of the Honor Council are as follows:

"Upon admission to the University of Tennessee College of Medicine, each student accepts the responsibility of acting with honor in course work, clinics and research, and requires the same of his/her peers. We have an Honor Code, a system based on the idea of personal integrity and the belief that we share a common responsibility to our profession. The success of this system rests firmly with each individual . . . rather than accept outside monitoring of our actions, we elected to monitor ourselves. During our four years here, we face significant intellectual and personal challenges. The ethical challenges of medicine are just as important and just as demanding. If the University of Tennessee College of Medicine seeks to train good physicians and to promote a sense of honor and professional responsibility, then the Honor Code is a valuable institution. The medical undergraduate years are not too early to begin training ourselves to act with integrity and to expect the same from our peers."

Student Records

A student's official or permanent record pertains to academic progress, promotion and graduation, and is maintained in the Office of the Registrar. Academic, health, and disciplinary records are kept separately. Confidential records of all misconduct reports, investigations, and disciplinary actions are kept in the University of Tennessee Health Science Center Office of Student Affairs. Medical records are maintained by the University Health Service, and financial aid records are maintained in The Office of Financial Aid. Transcripts of academic records are available to the individual student or his/her legal representative and to authorized members of the administration and faculty. Academic and health records are not available to others except by student request.

The University of Tennessee Health Science Center is in compliance with all provisions of the Family Educational Rights and Privacy Act (FERPA) of 1974, which provides enrolled students and former students the right to review the contents of certain student records that are maintained by the University. Students have the right of access to their permanent record maintained in the Registrar's Office. Students do not have the right to access financial records of parents, or the personal memory notes of a University official or faculty member. Students do have the right of access to their academic records in the College's Student Affairs Office. Students have access to individual transcripts online via the Student Information System (SIS).

Student Mistreatment

The policy on student mistreatment has three main components: a statement of College of Medicine standards of behavior with regard to mistreatment, a description of methods used in the ongoing education of the college community concerning the standards of behavior and the process by which they are upheld, and a description of the College of Medicine process for responding to allegations of mistreatment.

Standards of Behavior: The University of Tennessee College of Medicine has a responsibility to foster in medical students, postgraduate trainees, faculty, and other staff the development of professional and collegial attitudes needed to provide caring and compassionate health care. To nurture these attitudes and promote an effective learning environment, an atmosphere of mutual respect and collegiality among teachers and students is essential. While such an environment is extremely important to the educational mission of the College of Medicine, the diversity of members of the academic community, combined with the intensity of interactions that occur in the health care setting may lead to incidents of inappropriate behavior or mistreatment. The victims and perpetrators of such behavior might include students, preclinical and clinical faculty, fellows, residents, nurses, and other staff. Examples of mistreatment include: sexual harassment; discrimination based on race, gender, religion, ethnic background, sexual orientation, handicapped condition, or age; and purposeful humiliation, verbal abuse, threats, or other psychological punishment. Such actions are contrary to the spirit of learning, violate the trust between teacher and learner, and will not be tolerated by the College of Medicine.

Education: To promote an environment respectful of all individuals, the College of Medicine will provide ongoing education to students, residents, fellows, faculty, and other staff emphasizing the importance of professional and collegial attitudes and behavior. A process has been established to seek reconciliation between the parties in cases of alleged mistreatment. This process seeks to protect the accuser from retaliation and to protect the rights of all parties involved in a complaint. Through these efforts, the college will maintain an atmosphere essential to its educational mission in the training of physicians. To mistreat is to treat in a harmful, injurious, or offensive way. For example:

1. to speak insultingly or unjustifiably harshly to or about a person;
2. to belittle or humiliate;
3. to threaten with physical harm;
4. to physically attack (e.g., hit, slap, kick);
5. to require to perform personal services (e.g., shopping, baby-sitting);
6. to threaten with a lower grade for reasons other than course/clinical performance.

Individuals wishing to discuss possible violations of these policies should contact the College of Medicine Office of Student Affairs at (901) 448-5684. All inquiries will be held in strict confidence.

Accusations of racial or gender discrimination or harassment are referred to the UTHSC Affirmative Affairs Director. Disputes over grades are handled in accordance with College of Medicine academic policies. Additional information regarding the Mistreatment Policy and procedures can be found on the Student Affairs website: <http://www.uthsc.edu/Medicine/StudentAffairs/>

If Mistreatment or Abuse Occurs: When an allegation of mistreatment occurs, the parties directly involved should first try to resolve the matter themselves. Many incidents are amenable to resolution. In some situations, however, this informal approach might be hindered by reluctance of the accuser to approach the accused. In such cases, a more formal alternative process is available for resolving the matter. If the incidence of mistreatment occurs during the M1/M2 years, the student should report it to the course director. If the incidence of mistreatment occurs during the clerkship years, the student should report it to the clerkship director. If the incident involves the course or clerkship director, the student should report the incident to either the appropriate Department Chair, or directly to the Associate Dean of Student Affairs or the Assistant Dean for Clinical Education. Incidences that occur on the Knoxville or Chattanooga campuses should be handled in the same fashion. The associate dean on those campuses will report the incidence to the Associate Dean of Student Affairs, and/or the Assistant Dean for Clinical Education on the Memphis campus. When, after investigation, in the judgment of the Associate Dean of Student Affairs or the Assistant Dean for Clinical Education, a violation of the mistreatment policy has occurred, the Executive Dean and the Dean of that campus will be notified.

When it is the Dean's judgment that a violation of university policy has occurred, the accused will be put on notice that he/she has violated such policy, and appropriate action will be taken.

Confidentiality and Protection from Retaliation

Every effort will be made to protect alleged victims of mistreatment from retaliation if they seek redress. Although it is impossible to guarantee freedom from retaliation, it is possible to take steps to try to prevent it and to set up a process for responding to it. To help prevent retaliation, those who are accused of mistreatment will be informed that retaliation is regarded as a form of mistreatment. Accusations that retaliation has occurred will be handled in the same manner as accusations concerning other forms of mistreatment, using the mediator and council if needed.

Leave of Absence/Withdrawal

While the College of Medicine attempts to accommodate students who require a Leave of Absence (LOA), it is sometimes difficult to provide suitable options for makeup of missed assignments/activities due to the intensity, complexity and pace of the curriculum. The college will work with students to make up work for absences of less than one week. Leaves of more than one week may result in the student being required to repeat a term or year of work to continue progress. LOAs of more than one academic year may require the Dean's approval or an application for readmissions. Students requesting Leave to pursue an additional degree will not need to reapply for admissions.

Any student who feels that he/she cannot continue in the regular curriculum and is seeking to take a Leave or withdraw permanently is expected to contact the Office of Medical Education immediately. Officials within the Office of Medical Education will notify the appropriate administrative offices regarding the leave or withdrawal of the student. LOA's may have consequences for loan deferrals. The student will need to consult with the Office of Financial Aid regarding financial obligations/liabilities.

Grading Policies

The faculty evaluates the academic achievement, acquisition of skills, and attitudes of medical students and uses the marks of A, B, C, F, W, WP, WF, I, and R in all official reports. In certain instances, some courses may be graded on a PASS/FAIL (P/F) basis. The performance level and quality value assigned to performance are outlined in the following table:

| Grade | Performance | Quality Points |
|-------|----------------------------------|----------------|
| A | Consistently outstanding | 4 |
| B | Exceeds expectations | 3 |
| C | Satisfactory | 2 |
| F | Failure | 0 |
| P | Pass | 0 |
| WP | Withdrew Passing | 0 |
| WF | Withdrew Failing | 0 |
| W | Withdrew Before Evaluation | 0 |
| I | Incomplete | 0 |
| * | In Progress | 0 |
| R | Retake of Written Clerkship Exam | 0 |

The letters “WP” or “WF” are recorded to indicate pass or failure in those instances in which a student withdraws from a course/clerkship before completion, and is either passing or failing, respectively. The letter grade of “W” will be recorded when a student withdraws from a course/clerkship before there has been evaluation of the student to determine whether he/she is passing or failing. If withdrawal occurs before the midpoint of a course, the grade for the dropped course is recorded as a ‘W’ on the official transcript. If withdrawal occurs after the midpoint, but before the course is 70% completed, the grade for the dropped course is recorded as either ‘WP’ (withdrawn passing) or ‘WF’ (withdrawn failing) depending on the student’s grade point average in the course at the time of withdrawal. Once a course is $\geq 70\%$ completed, a withdrawal is not permitted except under extenuating circumstances. Any student who fails to complete the course will receive zero(s) for any uncompleted assignments and tests, and the final course grade will incorporate those zero(s) into the grade calculation.

The designation of “I” (Incomplete) will be used when a student is unable to complete the course/clerkship at the regular time. In such cases, arrangements will be made by the course/clerkship director for the student to complete the requirements, and the “I” will then be replaced by whatever grade the student earns. It is the responsibility of the student to work with the course/clerkship director in determining when and under what circumstances the “I” grade can be changed. The student must complete all remaining course requirements by the end of the term following that in which the ‘incomplete’ was received. Otherwise the ‘I’ will be changed to an ‘F’ for the permanent record.

The designation of “*” serves as a place holder in the student record system. It indicates that a student is currently enrolled in the course.

The designation of “R” (Retake) will be recorded in those instances in which a student completes all requirements in a clerkship and passes the clinical portion but fails the written exam. The ‘R’ grade will be replaced with the appropriate final grade after the student repeats the exam.

Role and Calculation of the Cumulative Grade Point Average

The cumulative grade point average (GPA) recorded on the transcript from the Registrar is used by the Progress and Promotions Committee (P&P), in part, to make recommendations about the promotion and continuation of students in the curriculum. For a student who must retake either courses or clerkships to correct academic deficiencies, the cumulative GPA is calculated by averaging the final grades attained in all courses or clerkships in which he/she has been enrolled for academic credit. This includes those courses or clerkships repeated at the University of Tennessee Health Science Center and those courses approved by the P&P to be taken at other AAMC institutions. GPA’s are calculated to two decimal places.

Appeal of Grades

A student may appeal his/her final grade if he/she feels that the grade was assigned inappropriately and not in accordance with the course or clerkship statement of policy distributed at the beginning of the program. The appeal is directed initially to the course/clerkship director, and then to the department chair. If resolution of the issue is not made at the department level, then the appeal is made in writing to the Office of Medical Education. Any student wishing to appeal to the Dean concerning the recommendation must make a written request within five (5) working days of receipt of written notification of the recommendation from the Office of Medical Education.

General Policy on Retaking Examinations in the Core Clerkships

Students who fail the written examination but have passed the clinical portion of a core clerkship can retake the written exam once. The student will be assigned a letter grade of "R" until the written examination is retaken. A student unable to take a clerkship examination due to illness or other emergency situation must notify the director of that clerkship. Concerns affecting individual examination questions or other forms of evaluation, as well as final grades, should be directed to the appropriate clerkship director.

The retake of exams in clerkships taken in Blocks 5 through 10 must be completed by the first day of class in January. For those clerkships taken after Block 11 of the M3 year, the retake must be completed no later than the end of Block 8 prior to the year of graduation. The student will retake the written exam and the clerkship director will assign the appropriate grade. A second failing score on the exam, or failure to retake the exam on time, will result in the assignment of a failing grade for the clerkship. The P&P will review the overall academic record of any student who fails more than one (1) written examination in the third-year clerkships. Each student may have no more than one Retake ("R") grade simultaneously posted in the required third-year clerkships. An alteration of the student's schedule that provides a period of time when the student is taken out of the core clerkships and scheduled into one or more option blocks may be recommended. During these option blocks, the student would prepare to retake one or more written examinations that had been failed on the first attempt on a schedule specified by the P&P.

Course and Clerkship Evaluation: Hall S. Tacket Society

The Hall S. Tacket Society is a student-run course and clerkship evaluation system. Student feedback on the quality of educational experiences is highly valued. Evaluations are done at the end of courses and clerkships. The data is shared with course and clerkship directors, faculty and department chairs. Curriculum committees review the data extensively to assist in curriculum assessment and improvement.

Tutoring Services

Tutoring services are available for students. Tutors are assigned based on availability and an assessment of students' need. For further information, contact Student Academic Support Services (SASS), (901) 448-5056.

Inclement Weather Policy

The administration at UTHSC decides when the campus is closed due to inclement weather. Closure indicates that classes and scheduled meetings are cancelled. In the event that the school is closed, faculty and students with clinical responsibilities are professionally obligated to provide that care even during inclement weather. Students on clinical services are expected to continue to provide care for their patients, provided traveling would not place the student at serious risk of injury. Students should consult with their resident and physician supervisors to determine the risks/benefits involving travel during these periods. Students who are unable to travel to the rotation sites should contact preceptors as soon as possible to advise them of the individual situation and whether the student could reach the site later in the day.

Since weather conditions will vary across the state, clerkship students on the three campuses will follow the schedules dictated by those campuses.

Dress and Identification

All students are expected to dress as professional school students. In addition, being able to be identified as a College of Medicine student has safety and practical implications. Recognizing the need to identify members of the professional medical team and to distinguish them from other hospital personnel or patients, they must wear clinic coats of a type described below while in patient contact situations:

- Attending staff wear coats of their choice.
- Interns and resident staff are expected to wear coat length, long sleeve clinic coats, generally white; however, color variations may be uniformly adopted by any department.
- Medical students wear white long sleeve jacket-length coats and display their name tags at all times.
- For M1s and M2s in clinical settings or in standardized patient settings, only professional attire (and not scrubs) is acceptable.
- For M3s and M4s in clinical settings, appropriate professional attire is expected.
- Students should introduce themselves simply by name and as a medical student along with year in school. Student should avoid the term “student-doctor” as it may lead to misunderstanding.

Name Badges

All UT faculty, students, staff exempt and non-exempt employees are issued an identification card by Campus Police. Medical student name badges are to be worn at all times. Badges will be provided during orientation. Replacements are available from the Campus Police office, for a fee. Students interested in access to various buildings after business hours are required to present identification badges for access and to display them while on the premises.

POLICIES AND PROCEDURES FOR CLERKSHIPS AND ELECTIVES

Counseling for Clerkships and Electives

Departments have designated contact faculty for their educational programs. These faculty members, generally the clerkship director, should be a student's first point of contact in matters of specific departmental concern in the curriculum. In addition, administrative details can be handled by the designated contact person. For more information, see:

<http://www.uthsc.edu/Medicine/medicaleducation/clerkships/>.

Clerkship Locations

All required rotations must be taken at an institution within the University of Tennessee System. There may be extenuating circumstances exempting selected students from this policy. A student who wishes to be granted an exemption must present his/her case to the Office of Medical Education for review.

Selected clerkships and electives may be taken in the College of Medicine at Memphis, Knoxville, Chattanooga, Nashville, or Jackson. The sites at Knoxville, Chattanooga, and Nashville offer a variety of clerkships, as well as clinical and basic science electives. Senior programs are available at all five (5) sites (although not in each discipline). Not all electives are offered on a continuing basis. Students should refer to the individual elective description for additional information.

Option Periods (OPM1-4001/F) or (Option Half-Period OPM1-4001/H)

Students in the College of Medicine have twelve option weeks usually taken in the fourth year. Students should use these option weeks to interview for residencies and other personal business. Jobs and/or non-credit work can be arranged during option weeks with faculty members. Any student interested in applying for a research award during option weeks should contact the office of the Vice Chancellor for Research for additional information.

Electives at Other Institutions

A maximum of twelve weeks of electives may be taken by students at other institutions. Any student applying for an elective at another institution must be in good standing in the College of Medicine, have satisfactorily completed the core clerkships of the third year, and have permission from the appropriate clinical department chair as well as the Office of Medical Education. Electives at other institutions are normally taken for credit and, thus, tuition is paid at the University of Tennessee. The cooperating institution must be affiliated with an accredited medical school, must agree to accept and evaluate the student, and must certify that the elective being applied for is a regularly offered medical student elective at that institution.

An "Elective Away Application" form is available electronically at <http://www.uthsc.edu/Medicine/medicaleducation/students/forms.php> or in the Office of Medical Education. This form must be completed and on file in the Office of Medical Education before the elective begins in order for formal academic credit to be awarded.

Dropping/Adding Rotations

All rotations (i.e., the required clerkships, selectives, and electives) may be dropped/added if the process is at least thirty (30) days prior to the beginning of the Block. Routine changes are effected by accessing the web-based program for scheduling the rotations. The web-based clerkship scheduler can be accessed at https://oracle.uthsc.edu/a107_clrk_sched.php.

Student Workload – Clinical Clerkships

The educational experiences in the clinical clerkships of the UTHSC College of Medicine are presented in various formats, which include: patient experiences in a hospital or physician's office, procedural workshops, skills laboratories, reading assignments, tutorials and didactic lectures. These clerkships provide a breadth of clinical experiences whereby students, under supervision by residents and faculty as well as other health professionals in the teaching hospitals, assist in the care of patients in order to master clinical knowledge, skills and attitudes. In these clinical experiences, students observe the patient, the illness, the effects of procedures and treatment over an adequate span of time in order to learn the natural history of the diseases and the specific effects of interventions to include treatment and/or prevention. This often is best done by being present and working with the patient over a relatively long period of time as the expression of the illness unfolds. Accomplishing this requires that students be assigned continuous patient care and in house call for prolonged periods on some specific rotations. To address the time commitment required of medical students during clinical rotations, and taking into account the effects of fatigue and sleep deprivation on learning, clinical activities, student health and safety, and patient safety, the medical school has adopted the following policy.

- Duty hours must be limited to 80 hours per week averaged over a four-week period, inclusive of all in-house call and patient care activities.
- Continuous on-site duty, including in-house call, must not exceed 30 consecutive hours.
- Students may remain on duty additional hours to participate in transferring care of patients, conducting outpatient clinics, maintaining continuity of medical and surgical care, and attending required didactic activities.
- Students must be provided with one day in seven (7) free from all educational and clinical responsibilities, averaged over a rotation, inclusive of call. One day is defined as one continuous 24-hour period free from all clinical, didactic, and administrative activities.
- Students should be provided with a 10-hour period after in-house call during which they are free from all patient care activities.
- Students are responsible for entering their work hours into the web-based work hour's log, which is accessed through the Student Information System web page.

The director for each clerkship will be responsible for scheduling student work hours, monitoring the intensity of each rotation, assuring that undue stress and fatigue among students is avoided, and arranging adequate resident and faculty supervision. This supervision by the attending faculty member ensures that students are assigned only patient care responsibilities for which they are qualified and that students are required only to perform functions appropriate to their educational program. The clerkship director also will be responsible for ensuring that the students' acquisition of knowledge, skills and attitude necessary to progress are documented. The Office of Medical Education will be responsible for reviewing each clerkship's compliance with this policy on a periodic basis. Students may appeal the workload in a particular clerkship if they feel that it is inappropriate. The appeal is directed initially to the clerkship director and then to the department chair. If resolution of the issue is not made at the department level then the concerns of the students should be presented in writing to the Office of Medical Education.

Visiting Students Application Service

The Visiting Student Application Service (VSAS) is an AAMC application designed to streamline the application process for senior "away" electives at other U.S. LCME medical schools. This service requires students to submit just one application for all schools, effectively reducing paperwork, miscommunication, and time. VSAS also provides a centralized location for managing offers and tracking decisions. It was created at the request of two GSA committees: Committee on Student Records (COSR) and Committee on Student Affairs (COSA).
<https://www.aamc.org/students/medstudents/48860/vsas/>.

Guidelines for Visiting Medical Students

The University of Tennessee, College of Medicine has elective opportunities available at its sites in Memphis, Knoxville, Chattanooga, Nashville and Jackson for medical students from other medical schools. To be eligible for consideration, students must meet the following criteria:

- Visiting students must be a candidate for the M.D. or D.O. degree in good standing in their final year of training in an accredited US school or from institutions with which UTHSC has a formal exchange program.
- Visiting students shall be limited to a maximum of (12 weeks) of experiences at all UT medical campuses during their medical school career. Electives will be assigned to visiting students only after all University of Tennessee students have been scheduled.
- All visiting students must have:
 - coverage for malpractice/liability insurance in the amount of \$1 million per incident and \$3 million aggregate from their institution or from acceptable other sources;
 - health insurance;
 - required immunizations for measles and rubella, influenza, and Hepatitis B;
 - taken a TB skin test within the past year;
 - been certified in CPR within the past year;
 - a recent background check;
 - completed HIPAA training;
 - passed USMLE Step 1 or COMLEX Part 1
- Visiting students must have completed instruction in the basic physical examination and have a working knowledge of general ward procedures. All electives require that the student has the basic Family Medicine, Medicine, Neurology, Pediatrics, Surgery, Psychiatry, and Obstetrics-Gynecology Clerkships. All students must have met the prerequisites of the clerkship to which they are applying. Any exceptions to this policy must be approved by the dean of medical Education, campus Associate dean or their designee at the recommendation of the department Chair of their designee.
- Visiting students who attend an LCME approved school must apply in VSAS (Visiting Student Application Service). <https://www.aamc.org/students/medstudents/48860/vsas/>.

Interested students can apply in VSAS no earlier than May of the junior year and at least four weeks prior to beginning the rotation. Others should request applications from the College of Medicine Office of Medical Education. All completed applications should be submitted first to the respective Departmental Office at UT before being sent to the Office of Medical Education.

It is expected that clerkship work completed at The University of Tennessee will be part of the graduation requirements of the visiting student's program. For this reason, an authorization for taking an elective is required from the visiting student's Dean's Office. Section II of the "visiting student" application provides for this authorization. The visiting student must be in good standing in his/her final year and authorized to take an elective. Currently, students who are regularly enrolled in another medical school and paying tuition at that school are not charged tuition at The University of Tennessee for brief elective periods. This policy may change in the future, and the school reserves the right to charge tuition at any time.

It is the individual student's responsibility to secure housing. Specifics about housing can be obtained from the department in which the elective rotation will be taken. Criminal background checks may be a requirement for training at some affiliated clinical sites. Based on the results of these checks, an affiliated clinical site may determine not to allow your presence at their facility.

COMMUNICATION

College E-mail Policy

The College continuously seeks ways to improve the lines of communication between the various College of Medicine offices/departments and medical students. Upon acceptance to the College of Medicine, each student is assigned an email account which enables the College to send official electronic correspondence. The official method of communication between students and their respective departments, programs or the dean's office is through the UTHSC email system. Students must check their email at least once each day to avoid missing vital information. The format of an official University email address is: NETID@uthsc.edu. Students can forward email from their official University email account to any external email account. Please note, however, that if a student elects to forward e-mail and that process fails, the student will still be responsible for reading and responding to any official information sent to their official University email account. Failure to comply or to respond to an email request from the Administration may result in a referral to the Professionalism Committee.

PROFESSIONALISM

It is the expectation of all students enrolled at the UTHSC to maintain the high ethical and professional standards of the various disciplines of the health professions. Failure to do so may subject a student to suspension or other appropriate remedial action by the University as outlined in *CenterScope*, Maintenance of Ethical and Professional Standards of the Health Professions (<https://www.uthsc.edu/centerscope/Centerscope.pdf>).

Professional Behavior and Conduct - Clerkships

General Guidelines for Professional Behavior and Conduct in the Third- and Fourth-Year Clerkships

The clinical rotations in the third and fourth years of medical school place demands and requirements on the students that go significantly above and beyond academic achievement as measured by performance on tests and by the ability to field questions learned through didactic instruction and reading. The student also is accountable for his or her behavior in each of the following areas:

- **Professional and Ethical Conduct:** The welfare of patients and their families is of foremost concern. Students must show respect and courtesy for patients and their families, even under difficult situations such as being challenged or provoked. Students must safeguard their patients' confidentiality in compliance with the Health Insurance Portability and Accountability Act (HIPAA). For example, there are to be no casual communications regarding patients in public places, such as hallways, elevators, cafeterias, gyms, etc.
- **Punctuality, Responsibility and Reliability:** Students are expected to be available and present for all scheduled clerkship activities. Any absences must be approved by the clerkship director in advance. Make-up assignments will be determined by the clerkship director; absences due to illness may require a physician's statement. Tardiness is unacceptable. Students are expected to conform to the prevailing schedule at the sites where they are assigned for their clinical instruction.
- **Getting Along with Other Members of The Medical Team:** Good relationships with nurses, aides, ward clerks, and anyone else involved in the care of the patient are absolutely essential. Students are expected to be courteous to all medical staff at the sites where they are assigned for their clinical instruction.
- **Getting Along with Staff:** Students need to be polite and respectful to the patients, faculty and residents, and all hospital employees. Much of the daily work in keeping a clerkship going falls on the shoulders of administrative assistants, secretaries, receptionists, and other staff that deserve respect. Students are expected to be considerate of and courteous to all of these employees.
- **Getting Along with Peers:** Students are expected to have pleasant working relationships with their fellow students. This includes an equitable sharing of the workload and helping and supporting each other.

If clerkship directors receive consistent complaints about a student in any of these areas, the student's grade may be affected. Serious documented problems with unprofessional or unethical behavior, in the judgment of the clerkship director, may result in a failing grade even if the student has passed the written or oral examinations and has otherwise satisfactory clinical ratings. In addition, consistent or serious complaints about unprofessional or unethical behavior may be reflected in the Medical Student Performance Evaluation (MSPE).

There may be times when a student has a personal problem or a personality conflict that impairs his or her ability to function properly on the clerkship. It is the student's responsibility to promptly notify the clerkship director when this first occurs and not after the fact.

PROGRESS, PROMOTION, AND GRADUATION

Satisfactory Academic Progress

Students must achieve satisfactory academic progress in order to receive federal financial aid. The Financial Aid Department's satisfactory academic progress standards mirror the academic progress policies of each individual college. A student who is found to not be making academic progress by their college is not eligible for federal financial aid. This rule may also apply to state, institutional, and private funds. For more information refer to CenterScope, Satisfactory Academic Progress, (<https://www.uthsc.edu/centerscope/Centerscope.pdf>).

Progress & Promotion Requirements

A Progress and Promotions Committee (P&P) is appointed for each matriculating class. The committee is charged by the Executive Dean of the College of Medicine with monitoring and making recommendations concerning the results of individual student performance in the curriculum until graduation.

The following are the minimum standards for student promotion to the next year of the curriculum and for graduation as set by the College. No student may be promoted to the next year of the curriculum or certified for graduation without having met all of these standards, unless a recommendation for an exception is justified in writing by the appropriate Progress and Promotions Committee (P&P) and accepted by the Executive Dean. An exception to any minimum standard is made only under extremely extenuating circumstances. The statements following the minimum standards are potential recommendations for the disposition of marginal or failing performance regarding that minimum standard.

Any student not having met the minimum standards may be allowed to repeat the curriculum in lieu of regular progress only under extremely extenuating circumstances. The P&P should recommend that a student repeat the curriculum in lieu of regular progress only in those situations in which the following three (3) criteria are met:

1. Committee identification of a specific circumstance(s) judged as having had a probable adverse effect on the student's academic performance;
2. Committee judgment that the identified specific circumstance(s) shows probability of resolution in a reasonable period of time;
3. Committee expectation that resolution of the identified specific circumstance(s) will result in subsequent satisfactory student performance in the curriculum.

The cumulative grade point average recorded on the transcript from the Registrar is used by the P&P, in part, to make recommendations about the promotion and continuation of students in the curriculum. For students who must retake either courses or clerkships to remove academic deficiencies, the cumulative grade point average is calculated by averaging the final grades attained in all programs in which they have been enrolled for academic credit, including those repeated at UTHSC and those taken in approved summer programs. GPA's are calculated to two decimal places.

First Year – Preclinical Courses

Each student must obtain a passing grade in each course.

The Progress and Promotions Committee (P&P), after consideration of all available information including academic performance to date, may make one of the following recommendations concerning student failure of a course(s) within the first year:

- Re-evaluation in the failed course(s).
- Repeat all or part of the first year.
- Academic dismissal from the College.

Each student must achieve a grade point average (GPA) of 2.0 (on a 4.0 scale).

The P&P, after consideration of all available information including academic performance to date, may make one of the following recommendations concerning student failure to achieve an overall GPA of 2.1 by the end of the first year:

- Re-evaluation in specified course(s).
- Repeat all or part of the first year.
- Academic dismissal from the College.

Second Year – Preclinical Courses

Each student must obtain a passing grade in each course.

The P&P, after consideration of all available information including performance to date, may make one of the following recommendations concerning student failure of a course(s) within the second year:

- Re-evaluation in the failed course(s).
- Repeat part or all of the first and/or second year.
- Academic dismissal from the College.

Each student must achieve an overall GPA of 2.0.

The P&P, after consideration of all available information including academic performance to date, may make one of the following recommendations concerning student failure to achieve an overall GPA of 2.1 by the end of the second year:

- Re-evaluation in specified courses.
- Repeat part or all of the second year.
- Academic dismissal from the College.

Each student must obtain a passing score at the national standard on the United States Medical Licensing Examination (USMLE) Step 1.

All students must take the USMLE Step 1 examination and pass at the national standard in order to be officially promoted to the Clinical Sciences portion of the curriculum. This examination must be taken by all students in April following their second year unless deferred by the Office of Medical Education. Students who are approved for deferment will not begin clerkships until a passing score is submitted.

The P&P will review the total academic performance to date of any student failing to achieve a passing score on the USMLE Step 1 examination. Any student failing to submit a passing score on the first attempt will be withdrawn from the Clinical Sciences portion of the curriculum and will not be scheduled for clerkships until a passing score is submitted. For students who fail the exam a second time, the P&P will review the student's academic record and recommend a program for the student to follow while preparing to take the examination for a third time. Any student failing to submit a passing score after three attempts will be academically dismissed from the College. Any recommendation for an exception to the College of Medicine policy concerning the USMLE Step 1 examination will be justified in writing to the Executive Dean by the Progress and Promotions Committee.

Third Year – Clinical Rotations

Each student must obtain a passing grade in each core clerkship.

The Progress and Promotions Committee (P&P), after consideration of all available information including academic performance to date, may make one of the following recommendations concerning a grade of "F" in a clerkship within the junior year:

- Re-evaluation in the clerkship in which an "F" was made.
- Repeat the clerkship in which an "F" was made and obtain a grade of "C" or better.
- Repeat all of the core clerkships.
- Academic dismissal from the College

Fourth Year – Clinical Rotations

Each student must obtain a passing grade in each clerkship, selective, or elective program.

The Progress and Promotions Committee (P&P), after consideration of all available information including academic performance to date, may make one of the following recommendations concerning a grade of "F" in a clerkship, selective or elective:

- Re-evaluation in the program in which an "F" was made.
- Repeat the program in which an "F" was made and obtain a grade of "C" or better.
- Academic dismissal from the College.

Each student must obtain a passing score at the national standard on the United States Medical Licensing Examinations Step 2CK (Clinical Knowledge) and Step 2CS (Clinical Skills).

All students must take the USMLE Step 2CK and Step 2 CS examinations and pass at the national standard in order to be certified for graduation. Students should take the Step 2 CK and the Step 2 CS examinations no later than December 31st of the senior year. Any student failing to submit a passing score on the first attempt will be allowed to retake the exam. Any student failing to submit a passing score on the second attempt may be allowed to retake it again after consultation with the P&P Committee. Any student failing to submit a passing score after three attempts will be academically dismissed from the College. Any student sponsored for a second or third attempt may be required to remain enrolled in a Special Topics course for 2 semester credit hours until the examination has been retaken, regardless of whether or not all other academic requirements have been met. Any recommendation for an exception to the College of Medicine policy concerning the USMLE Step 2CK and Step 2CS examinations will be justified in writing to the Executive Dean by the P&P.

Progress and Promotions Process and Roles

The Progress and Promotions Committee (P&P)

The Progress and Promotions Committee is charged by the Executive Dean of the College of Medicine with monitoring and making recommendations concerning the results of student performance in each academic year and certification of students for graduation. A committee is appointed for each academic class and will remain with that class through graduation. Each Committee is composed of faculty members, including a voting chair. The Executive Dean of the College of Medicine appoints all members, including the chair. The Office of Medical Education and the Office of Student Affairs appoint ex-officio non-voting members to the Committee. The Office of Medical Education and/or the Office of Student Affairs provides each Committee with all pertinent information available from the Registrar's Office and College of Medicine student records for those students under consideration. The deliberations of a Committee are confidential. A recommendation by the P&P to the Executive Dean requires a majority vote of the members present. The meetings are called by the Office of Medical Education or the Committee Chair as necessary. The Committee maintains written records of the recommendations made to the Executive Dean. Summaries of Committee proceedings are on file in the Office of Medical Education.

Role of Course Directors Concerning Progress and Promotions

Each Course Director is responsible for the evaluation of students and the assignment of student grades in the course(s) for which he/she is responsible, and for presenting to the appropriate Committee all pertinent data collected on any student during a course in which a student earned an "F" (failing) or "I" (incomplete) grade. In addition, each Course Director reports to the Committee the method, if any exists, by which any grade can be modified or changed.

Reconsideration of Progress and Promotions Committee Recommendations

In the case of an adverse recommendation, the student has the right to reconsideration by the Progress and Promotions Committee (P&P) that made the original recommendation. The student must make a request to the Office of Medical Education within five (5) working days of receipt of written notification of the P&P recommendation. The student will meet with the P&P and have the opportunity to bring with him/her any person(s), excluding legal counsel, whom the student feels can contribute to his/her presentation to the P&P. Committee reconsideration is conducted without the presence of legal counsel. Should the original adverse recommendations be sustained by the P&P, the student may then appeal to the Office of Medical Education and subsequently to the Executive Dean of the College of Medicine.

Role of the Student in Reconsideration of Committee Recommendations

It is the responsibility of the student requesting reconsideration by a Progress and Promotions Committee (P&P) to obtain and submit any information or documentation to support an alternative recommendation prior to P&P reconsideration. This includes any academic, psychiatric, personal, financial or physical information the student wishes to release to the P&P and the Associate and Assistant Deans. The Office of Medical Education and the Office of Student Affairs are responsible for assisting the student in obtaining this information.

Role of the Office of Medical Education Concerning Student Progress and Promotions

The Office of Medical Education reviews all recommendations made by the Progress and Promotions Committee (P&P) and, after all Committee considerations have taken place, submits these to the Executive Dean for consideration and decision. At that time, the Office of Medical Education either concurs in the recommendation(s) of the P&P or makes alternative recommendation(s) to the Executive Dean. The recommendation(s) of the P&P, as well as the position of the Office of Medical Education, are communicated to the student in writing by the Office of Medical Education. The position of the Office of Medical Education and the decision of the Executive Dean will be reported to the P&P by the Office of Medical Education.

Role of the Executive Dean Concerning Student Progress and Promotions

The Executive Dean may receive recommendations from the Progress and Promotions Committee, the Office of Medical Education, and other sources concerning the result(s) of individual student performance in the curriculum. Within the College, only the Executive Dean makes decisions concerning the result(s) of individual student academic performance. Any student wishing to appeal to the Executive Dean concerning recommendation(s) made in his/her case must make a written request to the Executive Dean within five (5) working days of receipt of written notification of the recommendation(s) concerning his/her case from the Office of Medical Education. The Executive Dean will review all documentation supplied by the P&P, the Office of Medical Education, and the student. The Executive Dean may meet with the student at his/her discretion. The student is considered to have been dismissed from the College of Medicine at the time of the Executive Dean's action. Any appeal to a higher level is an appeal for reinstatement.

Pre-clinical Courses Evaluation

Biomedical Science (Years One and Two – Preclinical courses)

Examinations are given at periodic intervals during this portion of the curriculum. The content of each examination is established by the course director. The questions are generally multiple choice and computer graded. Each student's individual examination score report is returned promptly online through the exam system. Scores are usually recorded in the course learning management system site for student access.

It is the responsibility of each course director to establish the criteria for awarding course grades and the role of examinations in the determination of those grades. Any concerns relative to individual examination questions, criteria for course evaluation, or final grades should be directed to the appropriate course director. Laboratory performance, participation in small group activities, special projects, etc., may also influence the final grade in each course. Each course director is responsible for communicating this information on the first day of class.

Students are expected to take examinations as scheduled. Those unable to take a scheduled examination because of illness or emergency situations must notify the Office of Medical Education and the appropriate course director prior to the examination.

All students must take the United States Medical Licensing Examination ([USMLE](#)) Step 1 and pass at the national standard in order to be officially promoted to the clinical portion of the curriculum. This examination is taken by all students following the sophomore year, unless specifically deferred by the Office of Medical Education.

M1 and M2 Remediation Policy

The integrated courses of the revised curriculum present remediation challenges. With the exception of gross anatomy (covered in the Structural Basis of Normal Body Function), there are no summer courses that are inclusive of the content in our revised courses. Even in the case of SBNBF, histology and embryology may not be adequately represented in a summer course.

Course remediation will only be offered to students who fail a course with a final percentage in the range of 63-68%. These students will receive an "I" (incomplete) for the course which will be converted to a letter grade upon completion of remediation. Students who perform satisfactorily in remediation will receive a "C" grade (and no higher) for the course. Failure to pass remediation will result in an "F" grade for the course. Students who earn a final score below 63% will receive an "F" grade for the course.

Only one course per year may be remediated by students. If a student receives more than one "I" grade or a combination of "I" and "F" grades, the student will be required to withdraw from all classes upon receipt of the second deficient grade and will be referred to the standing Progress and Promotions Committee. The student may be allowed to attempt remediation of one "I" grade while all others will be converted to an "F" grade. Choice of which "I" grade to remediate will be made by the student after consultation with the Progress and Promotions Committee.

Remediation of a first year course will occur during the summer break between the first and second years. Remediation of a second year course will occur after the end of the second year curriculum but prior to sitting for Step 1. Students will not be allowed to sit for Step 1 until all courses are successfully completed. Students who fail a course will be reviewed by the standing Progress & Promotions committee and allowed all current standards of appeal for continuation in the curriculum.

Repeating First- and Second-Year Courses

A student withdrawing from courses in the first or second year will receive a "W", "WP", or "WF" grade, as appropriate, on his/her official transcript. When a student does not complete a first- or second-year course at the University of Tennessee Health Science Center, he/she must repeat the course at the Health Science Center. The Progress and Promotions Committee has the option of recommending that a student who completes but fails first- or second-year courses, or a cumulative GPA less than 2.0 at the end of the first or second academic years, may correct the academic deficiency or unacceptable cumulative GPA requirement by successfully completing courses taken at other institutions, courses repeated at the University of Tennessee Health Science Center, or both. All courses taken for academic credit are recorded on the official transcript and computed in the GPA.

Clerkship Evaluations

Clinical Clerkships (Years Three and Four – Clinical rotations)

Student evaluation in the clerkships portion of the curriculum includes written examinations as well as an increased emphasis on other forms of evaluation. Clerkship examinations are normally multiple choice formats and most are obtained from the National Board of Medical Examiners (NBME). Oral examinations are utilized in some clerkships and are administered by faculty and house staff. In addition, clinical performance is evaluated by attending faculty and house staff in such areas as:

- history taking and physical exam
- progress notes and oral presentations
- fund of knowledge and understanding of disease mechanisms
- clinical application
- problem solving
- professional attributes and responsibilities
- self-improvement and adaptability
- information management
- relationships with patients
- interpersonal relationships.

The methods of evaluation are established by each clerkship director and communicated to students during clerkship orientations. Student evaluation reports are filed in the Office of Student Affairs and are available for review by the student. Student evaluations are also maintained by departmental offices. A student unable to take a clerkship examination due to illness or other emergency situation must notify the director of that clerkship at the earliest possible time. Concerns affecting individual examination questions or other forms of evaluation, as well as final grades, should be directed to the appropriate clerkship director. This must be done within one block of notification of the award of the final course grade. Evaluation of students in selectives and electives does not normally include a written examination. The evaluation method is established by the course director and available to the student on the first day of the rotation.

Completion of the Degree of Doctor of Medicine

The College of Medicine offers an educational program leading to the Doctor of Medicine (M.D.) degree. The M.D. degree is awarded after completion of degree requirements in either May or December. The Health Science Center holds two commencement exercises annually, in May and December. Only those students who will complete all requirements on time will be allowed to participate in commencement activities. The diploma, as well as each student's official transcript, reflects the awarding of the M.D. degree.

The transcript will be posted with the date of completion of all degree requirements for those students who complete requirements for the Doctor of Medicine degree out of phase. However, the degree will not be awarded until the next regularly scheduled commencement. Degrees are also conferred in August without an official commencement ceremony. The August conferral date is available to students who complete their degree requirements after the May graduation date and prior to September 1.

Time for Completion of the Medical Degree

The College of Medicine curriculum is designed and coordinated for students to complete the requirements for the M.D. degree in four years. In the event that students feel they cannot continue in the regular curriculum they may choose to take a leave of absence (LOA) through the Office of Medical Education. Similarly, as a passing score on USMLE Step 1 is required to enter the clinical portion of the curriculum and a passing score on Step 2 is required for graduation, students may need to delay entry into the clerkships or residency while completing the USMLE requirements.

Students will have six consecutive years to complete the COM curriculum, including time spent on LOA or out of the regular curriculum to complete the USMLE requirements. Failure to meet graduation requirements by the end of the sixth year following initial COM matriculation will result in dismissal. The limit of six total years applies to all medical students, but excludes time spent in other curricula for students in dual degree programs or other approved educational programs.

If for any reason students choose to delay normal progression through the curriculum, they must meet with the Associate Dean of Medical Education and acknowledge in writing that they understand the delay may jeopardize their ability to complete the course of study in the required number of years. Any appeal to extend the number of years beyond six years must be approved by the Progress and Promotions Committee and by the Associate Dean of Medical Education or designee.

Convocation and Commencement Activities

The College of Medicine has instituted a Deans' Convocation in honor of the graduating class and their families. This ceremony includes an address by the Executive Dean of the College of Medicine, presentation of doctoral hoods, recognition of honors and award recipients, administration of the Oath of Hippocrates, and addresses by faculty and student representatives. The Deans' Convocation is held in conjunction with the May UTHSC commencement.

UTHSC commencement activities are held in May and December of each year. The UTHSC Office of Student Affairs provides information concerning commencement activities. Attendance at the commencement ceremony is required of all students. Graduation *in absentia* may be permitted by the Executive Dean after a petition for graduation *in absentia* is submitted to the College of Medicine's Office of Student Affairs at least two months before graduation. Students should contact the Office of Student Affairs for further information.

United States Medical Licensure Examinations (USMLE)

Each individual state determines requirements for licensure to practice medicine in that state and maintains the standards of medical practice in accordance with its own rules and regulations. To this end, each state has a medical licensure board charged with maintaining the standards for licensure in that state and in evaluating credentials submitted to them for licensure. Regulations of state licensing boards are subject to change without notice and each board should be contacted concerning the specific requirements for licensure in that state.

The Federation of State Medical Boards of the United States (FSMB) and the National Board of Medical Examiners (NBME) have established a single common uniform examination for medical licensure in the United States, the United States Medical Licensing Examination (USMLE). The USMLE is a single examination program with three complementary steps. Step 1 assesses whether an examinee understands and can apply key concepts of basic biomedical science, with an emphasis on principles and mechanisms of health, disease, and modes of therapy. The USMLE Step 2 has two components. Step 2CK (Clinical Knowledge) assesses whether an examinee possesses the medical knowledge and understanding of clinical science considered essential for the provision of patient care under supervision, including emphasis on health promotion and disease prevention. The Step 2CS (Clinical Skills) assures that examinees have the data gathering and communication skills necessary to enter supervised postgraduate education and for subsequent licensure.

A passing score on the Step 1, 2CK, and 2CS examinations is a requirement for the M.D. degree at the University of Tennessee College of Medicine. A student will normally sit for the Step 1 examination at the end of the sophomore year and will sit for the Step 2 examinations by December 31st of the M4 year. USMLE Step 3 assesses whether an examinee possesses the medical knowledge and understanding of biomedical and clinical science considered essential for the unsupervised practice of medicine, and is taken during residency training. To be eligible for the Step 3 Examination, an individual must obtain the M.D. degree and must have completed successfully Step 1, Step 2 CK, and Step 2 CS examinations.

The USMLE Step 1 and Step 2 exams are administered by the National Board of Medical Examiners (NBME) for all eligible examinees. Further information can be found at <http://www.nbme.org/>. The Step 3 examination is administered by licensing authorities for the State of Tennessee. Information can be obtained from the Tennessee State Board of Medical Examiners.

Taking USMLE Step 2 Exams During the Required Clerkships

All students must take the United States Medical Licensing Examinations, Step 2CK and 2CS, and pass at the national standard in order to be certified for graduation. The Step 2CK and Step 2CS exams should be taken no later than December 31 of the M-4 year. Students must declare, in writing to the appropriate clerkship director, if they have registered to take the USMLE Step 2 exams during a required clerkship. Students are not permitted to schedule the USMLE Step 2 exams at times conflicting with the scheduled administration of any end-of-clerkship examinations.

The declaration must be done as soon as possible, but no later than two weeks prior to the orientation to the appropriate clerkship and be on file in the clerkship director's office. A student who is registered to take Step 2, and who has properly indicated such, will be provided with an excused absence from all clerkship activities to sit for the USMLE. The course director has the discretion to allow, on a case-by-case basis, an appropriate number of days with the excused absence prior to the examination date. If not notified properly, the clerkship director reserves the right to refuse a student's request for excused absence from the scheduled activities.

MENTOR/COUNSELING SYSTEMS

Faculty Mentor System

The Faculty Mentor System is comprised of College of Medicine faculty members who serve as ombudsmen for students. Scientists and/or clinicians are assigned by the Office of Student Affairs to a small group of entering students. A sophomore student is assigned to each group to facilitate meetings between mentors and students. Mentors meet with students individually and in groups, beginning with orientation and continuing throughout their medical education. Students are befriended and assisted by their mentors in taking full advantage of the institution's educational as well as extracurricular opportunities. The essential ingredient for the success of the Mentor System is the degree of responsibility assumed by mentors and students. Faculty Mentors are responsible for being accessible, caring, and equipped with accurate information. Students are responsible for availing themselves of the opportunity to meet with their mentors on a regular basis. For further information, contact the Office of Student Affairs.

Faculty Mentor/Peer Counselor System

Peer Counselors are trained sophomore student volunteers who offer a support system to freshman students. The program teaches prospective physicians that it is acceptable to ask for and offer support. In addition, the program fosters positive development and a shared, cooperative approach to education. A national model, this unique program has been well received and utilized by the UT medical students.

Aid to the Impaired Medical Student (AIMS)

The pressure and stress of a medical education can tax the coping skills of a student at times. Often this is a healthy means of developing the maturity and responsibility necessary for the profession; however, if a student cannot successfully adjust or employs inappropriate adaptive measures, such as the use of alcohol or other substances, he or she may become psychologically and professionally impaired, seriously jeopardizing his/her well-being and possibly that of others. In an effort to prevent impairment by early intervention, the Aid to Impaired Medical Students (AIMS) program was established in 1982 and was the first program of its kind among medical schools in the U.S.

The AIMS program is administered by a council composed of eight students (two elected by each class) and eight physicians/staff. The functional aspects of the AIMS program include detecting and reporting the existence of an impaired student to a member of the council, confronting the affected student in an appropriate and effective manner, evaluation of the extent of the student's impairment, and most importantly, treatment and monitoring of the student's progress.

The success of the AIMS program depends on three critical principles:

- AIMS must be perceived by the students and the faculty as a positive, student-oriented program designed to assist the impaired student, while ensuring the development of highly professional young physicians and to support the rehabilitation of the impaired student while ensuring the development of highly professional young physicians;
- Confidentiality must be maintained at all costs in order to protect the impaired student;
- AIMS must function autonomously and separately from the UTHSC administration.

The Dean's office is notified of a student's impairment only upon refusal to participate in or failure to successfully complete the program. It must be emphasized that the goal of the AIMS program is to provide a positive system through which student quality and professionalism are enhanced.

Student Advisory Group

The Student Advisory Group (SAG) is designed to provide advice and counsel to the Office of Student Affairs in exercising its responsibilities to students. The elected representatives (VP's for Student Affairs) from each class and elected OSR members provide student representation. Issues addressed are non-academic and deal with advancing the personal development and professional life of medical students.

Career Counseling and Residency Placement

Choosing the specialty most congruent with interests, talents and long-term personal and professional goals is a major life decision. Programs and activities are available to support students as they contemplate their choice of specialties and residencies. The Career Counseling and Residency Placement program begins in the first year of medical education and continues through the NRMP Match in the fourth year. See the "Graduate Training" section of this Catalog or the Student Affairs website for more information <http://www.uthsc.edu/Medicine/students/cim/>

The UTHSC Careers in Medicine (CiM) Program

This is a student-led interest group, which is sponsored by the Office of Student Affairs in conjunction with the Association of American Medical Colleges (AAMC). Dedicated to helping students achieve their long-range professional goals, this group works with the Office of Student Affairs to promote a number of class-specific events designed to aid students in the decision-making process. The Office of Student Affairs:

- provides an individual, one-time user access code for CiM Web site access;
- organizes and implements workshops;
- obtains Student Guides from the AAMC national CiM office;
- selects and recruits faculty advisors;
- represents the College of Medicine in the ongoing implementation and expansion of the Careers in Medicine program developed by the AAMC.

HONORS & RECOGNITION

Outstanding students are recognized for their achievement during the College of Medicine Dean's Convocation each year. These awards are given in recognition of academic excellence, achievement in clinical medicine, research, leadership and service to the community and to the institution. The Committee on Recognition and Awards, with the support of the Office of Student Affairs, considers all candidates for these awards and makes the final selection of the recipient.

Honors/ High Honors

The College of Medicine acknowledges the superior academic achievement of students by the designations of "With Highest Honors" (top 5%) and "With High Honors" (next 10%) on their transcripts. All academic programs taken through Block 3 of the fourth year are counted for the determination.

Awards and Recognition

Faculty Medal for Academic Achievement: The award is presented by the faculty to the graduating senior(s) with the highest academic standing in the class.

The Committee on Recognition and Awards under the direction of the Office of Student Affairs selects recipients for the following awards. Among the special awards given are the following:

Alumni Achievement Award in Clinical Medicine: This award is presented to an outstanding graduating senior who exemplifies the highest ideals of the practice of medicine. The recipient displays the best qualities of personal honesty, character, compassion for patients, and dedication to the highest ethical and professional standards. A plaque and stipend are provided by the College of Medicine Alumni Association for the continued pursuit of excellence in medical arts and skills.

Alumni Achievement Award in Research: This award is given to a graduating senior in recognition of outstanding achievement in biomedical research. A plaque and stipend are provided by the College of Medicine Alumni Association for continuation of research pursuits.

Alpha Omega Alpha Distinguished Graduate Award: An engraved plaque is presented to the graduating senior who, in the opinion of the Committee on Recognition and Awards and the AOA Executive Committee, will make the most significant contribution to the medical profession. The award is presented by the College of Medicine Chapter of the Alpha Omega Alpha Honor Medical Society.

Robert L. Summitt, M.D. Distinguished Student Achievement Award: The Committee on Recognition and Awards selects a graduating senior who has shown distinction in scholarship, leadership, service, and character during the period of medical education. An engraved plaque and a stipend are awarded by the College with sponsorship by the Upjohn Pharmaceutical Company.

Departmental Awards: The Departments of Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatry, Surgery, Neurology, and Family Medicine, respectively, present an award to the graduating senior who illustrates the most outstanding abilities within each specialty. Additionally, The Tennessee Academy of Family Physicians sponsors The Outstanding Student in Family Practice Award.

Charles C. Verstandig Award: This award is presented to the member of the graduating class who surmounts the greatest difficulty in obtaining a medical education. The recipient is selected by the class with input from the Committee on Recognition and Awards.

Anthony S. Ficalora Award: This award is given to a graduating senior for his/her sensitivity to and respect for patients. The recipient is chosen by the Committee on Recognition and Awards.

Distinguished Student Service Award: An engraved plaque is given by the College of Medicine to a graduating senior for outstanding service to the student body and to the College of Medicine. The recipient is selected by the Medical Student Executive Council.

Student Affairs Service Award: This award is presented by the University of Tennessee Health Science Center Office of Academic, Faculty, and Student Affairs in recognition and appreciation of outstanding leadership and service as a member of the Student Government Association Executive Council.

Outstanding Community Service Award: This award is given to a graduating senior for outstanding service to the community and the medical profession while a medical student. It includes a set of CIBA Medical Illustrations Atlas. The recipient is selected by the Medical Student Executive Council.

Alpha Omega Alpha Honor Medical Society: Student membership is based entirely upon scholarship, honesty, and potential leadership. Students are elected to the chapter during their third or fourth year of medical school. The UT local chapter of AOA makes all selections.

Outstanding Faculty Awards: The graduating seniors select an outstanding faculty member from their basic science years and from their clinical years for recognition.

EDUCATIONAL OBJECTIVES AND COMPETENCIES

Graduates of the University of Tennessee College of Medicine will complete a medical education program that prepares them for entry into a variety of advanced, differentiated physician training programs. To enable graduates to attain this objective, the medical education program will facilitate the development of the requisite knowledge, skills, attitudes, and beliefs. Graduating students will be expected to adhere to the STEEP Principles, providing care that is safe, timely, effective, efficient, equitable and patient-centered, and will be expected to demonstrate competency in the following areas:

Patient Care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of optimal health.

Students are expected to:

- provide compassionate treatment for all patients, respecting their privacy and dignity;
- conduct patient-centered encounters, perform and document both complete and focused histories and physical examinations appropriate for the level of training;
- evaluate data, identify problems, and plan proper action using scientific evidence and clinical judgment;
- demonstrate the ability to formulate a diagnosis, a treatment plan, and a prognosis based on an understanding of the patient, the natural history of the disease, and known intervention alternatives;
- apply principles of health promotion and disease prevention as high priorities;
- work effectively with other health professionals in order to provide patient-focused care;
- demonstrate basic skills in routine technical procedures;
- demonstrate literacy in the use of computers, medical informatics, and other technology to support patient care decisions.

Medical Knowledge about established and evolving biomedical, clinical, and cognitive (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.

Students are expected to:

- demonstrate knowledge of the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis;
- demonstrate knowledge of the normal structure and function of the body (as an intact organism) and of each of its major organ systems;
- identify the principles that underlie normal human development and aging;
- demonstrate knowledge of disease processes, including symptoms, diagnosis, and treatment;
- recognize that health and illness involve psychological, biological, cultural, ethnic, gender, age, and socio-economic components;
- develop an analytical thinking approach to problem solving and clinical reasoning;
- understand the scientific basis, indications, and interpretation of common diagnostic modalities;
- demonstrate knowledge of therapeutics and therapeutic decision-making;
- recognize patients with immediately life threatening cardiac, pulmonary, or neurological conditions and be able to institute appropriate initial actions;
- know the principles of preventive medicine, health maintenance and how environment affects health and disease;
- demonstrate awareness of both traditional and non-traditional modes of care.

Practice-Based Learning and Improvement involving the investigation and evaluation of patient care practices, appraising and assimilating scientific evidence, and improving patient care practices.

Students are expected to:

- use information technology to access on-line medical information, and support their own education;
- use evidence-based medicine approaches and knowledge of study designs and statistical methods to appraise clinical studies on diagnostic and therapeutic effectiveness;
- understand continuous quality improvement practices;
- demonstrate the ability to pursue self-directed learning and self-assessment for the purpose of lifelong learning to stay abreast of scientific advances and for continual improvement in clinical practice.

Interprofessional and Communication Skills resulting in effective information exchange and teaming with patients, patients' families, and professional associates.

Students are expected to:

- demonstrate interpersonal skills that build rapport and empathic communication with patients and their families across socioeconomic, ethnic, and cultural boundaries;
- counsel and educate patients and their families;
- communicate effectively in oral and written formats with health care team members.

Professionalism based on a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

Students are expected to:

- advocate at all times the interests of one's patients over one's own interest;
- demonstrate the qualities of integrity, compassion, reliability, and dependability in interactions with colleagues, patients, and patients' families;
- recognize ethical issues relating to a physician's responsibilities and obligations to patients, colleagues, and society (e.g., end-of-life issues);
- demonstrate a sensitivity to the religious, mental, emotional, cultural, social-economic and physical needs of patients and their families, and maintain confidentiality of patient information;
- understand the importance of a commitment to excellence through the continuation of one's own professional education and growth, acceptance of scrutiny by peers and others, and dealing openly and honestly with professional mistakes;
- demonstrate a commitment to teach;
- understand the potential for personal impairment resulting from the high-stress environment of the practice of medicine, and recognize the availability of support resources.

Systems-Based Practice that demonstrates an awareness of and responsiveness to the larger context and system of health care and the ability to effectively utilize system resources to provide optimal care.

Students are expected to:

- develop a sense of social responsibility;
- understand the role of managed care and health care delivery systems and possess a knowledge of cost-effective and quality health care practices;
- identify weaknesses in the health care delivery system and the causes of medical errors, and be able to develop a plan of action to correct them;
- demonstrate knowledge of and respect for the overlapping roles and distinct competencies of different health professionals.

CURRICULUM SUMMARY AND COURSE DESCRIPTIONS

Four-year Curriculum at a Glance

First Year – Preclinical Courses

COM 1011 - Structural Basis of Normal Body Function

COM 1012 - Molecular Basis of Normal Body Function

COM 1021 - Common Mechanisms of Disease

COM 1051 - Organ Systems – Pathogenesis/Diagnosis/Treatment: Hematological, Cardiovascular, Renal

COM 1041 - Principles of Clinical Medicine I

COM 1042 - Principles of Clinical Medicine II

Second Year – Preclinical Courses

COM 2052 – Pulmonary, Dermatological, Rheumatic, Musculoskeletal

COM 2053 - Endocrine, Reproductive/Breast, Urogenital, GI Liver

COM 2054 - Central-Peripheral Nervous Systems/Psychiatry

COM 2055 - Infectious Disease and Immunological Wrap-Up

COM 2043 - Principles of Clinical Medicine III

COM 2044 - Principles of Clinical Medicine IV

Step 1 - United States Medical Licensing Examination (USMLE)

Third Year – Clinical Rotations

Principles of Clinical Medicine V - 2 weeks

Family Medicine - 8 weeks

Medicine - 8 weeks

Obstetrics & Gynecology - 8 weeks

Pediatrics - 8 weeks

Psychiatry/Neurology - 8 weeks

Surgery - 8 weeks

Fourth Year – Clinical Rotations

Principles of Clinical Medicine VI - longitudinal

Ambulatory Medicine - 4 weeks

JI - Any - 4 weeks

JI - Medicine - 4 weeks

Specialty Clerkship - 4 weeks

Surgery Specialties - 4 weeks

Patient Safety/Quality Improvement Clerkship (PS/QI) - longitudinal

Electives - 16 weeks

Optional Blocks - 12 weeks

Step 2 CK - United States Medical Licensing Examinations (USMLE) Clinical Knowledge Exam

Step 2 CS - United States Medical Licensing Examinations (USMLE) Clinical Skills Exam

Residency Training as M.D.

First Year – Preclinical Courses

The biomedical sciences portion of the curriculum is approximately 65 weeks in duration. The first year curriculum runs from August through May, and is devoted to the basic scientific foundations of medicine and an introduction to clinical medicine. The first year format consists primarily of basic science activities in the General Education Building and clinical activities in the Robert Kaplan Clinical Skills Center. Approximately twenty hours weekly are devoted to scheduled activities.

M1 – Foundations 1-4

Fall Term

| Title | Course # | Credit Hours |
|--|----------|--------------|
| 1.1 Structural Basis of Normal Body Function | COM 1011 | 10 |
| 1.2 Molecular Basis of Normal Body Function | COM 1012 | 8 |
| 4.1 Principles of Clinical Medicine I | COM 1041 | 4 |

Spring Term

| Title | Course # | Credit Hours |
|--|----------|--------------|
| 2.1 Common Mechanisms of Diseases | COM 1021 | 9 |
| 4.2 Principles of Clinical Medicine II | COM 1042 | 4 |
| 5.1 Organ Systems – Pathogenesis/Diagnosis/Treatment: Hematological, Cardiovascular, Renal | COM 1051 | 9 |

M1 Course Descriptions

- COM 1011 Structural Basis of Normal Body Function** *Credit:* 10 Fall term of year one. Complete dissection of the human body and virtual microscopy of tissue sections will provide students with knowledge of normal gross and tissue anatomy. Laboratory sessions will be supplemented with lectures, study guides, and the study of cross sections. Human embryology is included in the program. The course will provide a foundation for subsequent understanding of the physiology and pathophysiology of organ systems and common diseases. *Mode of delivery:* Preclinical course. *Offered:* Fall. *Instructor of Record:* Melburn Park (Fall).
- COM 1012 Molecular Basis of Normal Body Function** *Credit:* 8 Fall term of year one. This integrated course will provide students the molecular biology, genetics, cell structure, and biochemistry of normal body function with an emphasis on clinical applications. Instruction includes live and pre-recorded lectures, team-based learning sessions, and clinical basic science conferences. Along with COM 1011, the course will provide a foundation for subsequent understanding of the physiology and pathophysiology of organ systems and common diseases. *Mode of delivery:* Preclinical course. *Offered:* Fall. *Instructor of Record:* S. Ken Nishimoto (Fall).
- COM 1021 Common Mechanisms of Disease** *Credit:* 9 Spring term of year one. This course will cover fundamental information on mechanisms common to multiple diseases, to include basic aspects of cell injury, repair/regeneration, inflammation, immunopathology, neoplasia, nutrition, underlying genetic causes, and addictive life styles. It will also expose students to basic aspects of pharmacokinetics, pharmacodynamics, and pharmacotherapeutics; basic microbial structure, classification, physiology, and genetics; the immune response to infections; and fundamentals of laboratory diagnosis in the practice of medicine. Instruction includes live and pre-recorded lectures, small group sessions, team-based learning sessions, laboratory exercises, and clinical pathophysiology conferences. The course will provide a foundation for subsequent understanding of the causes, response, diagnosis, and pharmacologic treatment of common diseases as well as the pathology and pathophysiology of organ systems. *Mode of delivery:* Preclinical course. *Offered:* Spring. *Instructor of Record:* Trevor Sweatman (Spring).

- COM 1041 Principles of Clinical Medicine I** *Credit: 4 (1 term)* Fall term of year one. This course covers a variety of topics including HIPAA and OSHA regulations, developing patient rapport, the doctor/patient relationship, the biopsychosocial model of medicine, professionalism, communication and interviewing skills, history taking, nutritional assessment, and performing and documenting a physical exam. All topics are thoroughly integrated into concurrent foundation courses. *Mode of delivery:* Preclinical course. *Offered:* Fall. *Instructor of Record:* Beth Choby (Fall).
- COM 1042 Principles of Clinical Medicine II** *Credit: 4 (1 term)* Spring term of year one. This course covers a variety of topics including patient rapport skills, the doctor/patient relationship, the biopsychosocial model of medicine, professionalism, communication and interviewing skills, history taking, performing and documenting the physical exam, tobacco and weight loss counseling, drug dependence, challenging patient encounters, preventive services, diagnostic testing properties, and basic biostatistics. All topics are thoroughly integrated with concurrent foundation courses. *Mode of delivery:* Preclinical course. *Offered:* Spring. *Instructor of Record:* Beth Choby (Spring).
- COM 1051 Organ Systems – Pathogenesis, Diagnosis, and Treatment: Hematological, Cardiovascular, Renal** *Credit: 9* Spring term of year one. This course, one of five modules for cohesive content and grading purposes, will provide a fully integrated presentation by multiple basic and clinical Faculty on diseases of the major organ systems. The physiology, pathophysiology, pathology, pharmacology, and infections underlying these systems will be covered. Instruction includes live and pre-recorded lectures, small group sessions, team-based learning sessions, and clinical pathophysiology conferences. The course will provide a foundation of integrated basic and clinical sciences needed by students as they enter the clerkship phase of training. *Mode of delivery:* Preclinical course. *Offered:* Spring. *Instructor of Record:* J. Patrick Ryan (Spring).

Second Year – Preclinical Courses

The second year curriculum runs from August through March, and is devoted to the continued exposure to the basic scientific foundations of medicine and clinical medicine, focusing around organ systems. It consists primarily of basic science activities in the General Education Building and clinical activities in the Robert Kaplan Clinical Skills Center. Approximately twenty hours weekly are devoted to scheduled activities.

M2 – Foundations 5

Fall Term

| | | |
|---|----------|---|
| 5.2 Organ Systems – Pathogenesis/Diagnosis/Treatment: Pulmonary, Dermatological, Rheumatic, Musculoskeletal , | COM 2052 | 9 |
| 5.3 Organ Systems – Pathogenesis/Diagnosis/Treatment: Endocrine, Reproductive/Breast, Urogenital, GI/Liver | COM 2053 | 9 |
| 4.3 Principles of Clinical Medicine III | COM 2043 | 4 |

Spring Term

| | | |
|---|----------|---|
| 5.4 Organ Systems – Pathogenesis/Diagnosis/Treatment: Central-Peripheral Nervous Systems/Psychiatry | COM 2054 | 9 |
| 5.5 Organ Systems – Pathogenesis/Diagnosis/Treatment: Infectious Disease and Immunological Wrap-Up | COM 2055 | 2 |
| 4.4 Principles of Clinical Medicine IV | COM 2044 | 4 |
| Pre-Clerkship | | |

M2 Course Descriptions

COM 2043 Principles of Clinical Medicine III *Credit: 4 (1 term)* Fall term of year two. This course covers a variety of topics including patient rapport skills, doctor/patient relationship, the biopsychosocial model of medicine, professionalism, communication and interviewing skills, history taking, performing physical exams, documenting physical exams, tobacco counseling, weight loss counseling, drug dependence, challenging patient encounters, preventive services, diagnostic testing properties, and basic biostatistics. All topics are thoroughly integrated with concurrent foundation courses. *Mode of delivery:* Preclinical course. *Offered:* Fall. *Instructor of Record:* Beth Choby (Fall).

COM 2044 Principles of Clinical Medicine IV *Credit: 4 (1 term)* Spring term of year two. This course will continue with covering a variety of topics from the first term, including patient rapport skills, doctor/patient relationship, the biopsychosocial model of medicine, professionalism, communication and interviewing skills, history taking, performing physical exams, documenting physical exams, tobacco counseling, weight loss counseling, drug dependence, challenging patient encounters, preventive services, diagnostic testing properties, and basic biostatistics. All topics will be thoroughly integrated with concurrent foundation courses. *Mode of delivery:* Preclinical course. *Offered:* Spring. *Instructor of Record:* Beth Choby (Spring).

- COM 2052 Organ Systems - Pathogenesis, Diagnosis, and Treatment: Pulmonary, Dermatological, Rheumatic, Musculoskeletal** *Credit: 9* Fall term of year two. This course will provide a fully integrated presentation by multiple basic and clinical Faculty on diseases of the Pulmonary, Dermatological, rheumatic, musculoskeletal systems. The physiology, pathophysiology, pathology, pharmacology, and infections underlying these systems will be covered. Instruction includes live and pre-recorded lectures, small group sessions, team-based learning sessions, and clinical pathophysiology conferences. The course will provide a foundation of integrated basic and clinical sciences needed by students as they enter the clerkship phase of training. *Mode of delivery: Preclinical course. Offered: Fall. Instructor of Record: J. Patrick Ryan (Fall).*
- COM 2053 Organ Systems– Pathogenesis, Diagnosis, and Treatment: Endocrine, Reproductive/Breast, Urogenital, GI/Liver** *Credit: 9* Fall term of year two. This course will provide a fully integrated presentation by multiple basic and clinical Faculty on diseases of the Endocrine, Reproductive/Breast, Urogenital, and GI/Liver organ systems. The physiology, pathophysiology, pathology, pharmacology, and infections underlying these systems will be covered. Instruction includes live and pre-recorded lectures, small group sessions, team-based learning sessions, and clinical pathophysiology conferences. The course will provide a foundation of integrated basic and clinical sciences needed by students as they enter the clerkship phase of training. *Mode of delivery: Preclinical course. Offered: Fall. Instructor of Record: J. Patrick Ryan (Fall).*
- COM 2054 Organ Systems – Pathogenesis, Diagnosis, and Treatment:, Central-Peripheral Nervous Systems/Psychiatry** *Credit: 9* Spring term of year two. This course will provide a fully integrated presentation by multiple basic and clinical Faculty on diseases of the central-peripheral nervous organ systems. The physiology, pathophysiology, pathology, pharmacology, and infections underlying these systems will be covered. Instruction includes live and pre-recorded lectures, small group sessions, team-based learning sessions, and clinical pathology conferences. The course will provide a foundation of integrated basic and clinical sciences needed by students as they enter the clerkship phase of training. *Mode of delivery: Preclinical course. Offered: Spring. Instructor of Record: Renate Rosenthal (Spring).*
- COM 2055 Organ Systems – Pathogenesis, Diagnosis, and Treatment: Infectious Disease and Immunological Wrap Up** *Credit: 2* Spring term of year two. This course, one of five modules for cohesive content and grading purposes, will provide new perspectives on microbiology and immunology content previously presented in the other organ systems. Instruction may include live and pre-recorded lectures, small group sessions, team-based learning sessions, and clinical pathophysiology conferences. The course will provide a foundation of integrated basic and clinical sciences needed by students as they enter the clerkship phase of training. *Mode of delivery: Preclinical course. Offered: Spring. Instructor of Record: J. Patrick Ryan (Spring).*

The Biomedical Science component of the curriculum is completed in March. Students then sit for the USMLE Step 1 Exam prior to beginning the clinical curriculum.

Third Year - Clinical Rotations (Begins in May)

Students proceed directly into the Third Year Clinical Clerkships upon successful completion of the Biomedical Sciences, and obtaining a passing score on the United States Medical Licensing Examination (USMLE) Step 1. Occasionally, students may elect to delay entry into the clerkship program in order to pursue graduate studies. Criminal background checks are a requirement for training. Based on the results of these checks, an affiliated clinical site may determine not to allow your presence at their facility.

Students begin the third year with a week-long Principles of Clinical Medicine block which focuses on providing clinical skills essential to success in the M-3 clerkships. During the clerkships, students focus their attention and efforts on patient problem-solving and experience an increasing level of responsibility throughout the rotations. Student workload in the third year is controlled by the director of each clerkship. The total amount of time allotted for third-year clerkships is 50 weeks, which is taken over a 64-week period. After completion of a minimum of three core clerkships, students may choose one or more electives to enhance their skills and understanding in a specific discipline before completing all six required clerkships.

| Clerkship | Duration |
|-----------------------------------|----------|
| Principles of Clinical Medicine V | 2 weeks |
| Family Medicine | 8 weeks |
| Medicine | 8 weeks |
| Neurology | 4 weeks |
| OB/GYN | 8 weeks |
| Pediatrics | 8 weeks |
| Psychiatry | 4 weeks |
| Surgery | 8 weeks |

These clerkships provide a breadth of clinical experiences in the major care areas. Students become an integral part of the health-care team in an academic setting involving both house staff and faculty as well as ancillary services of the teaching hospitals. Programs are available in facilities in Memphis, Knoxville, Chattanooga and Nashville.

M3 Clerkship Descriptions

- FME1-3001/F** **Core Clerkship in Family Medicine** *Credit: 14* The Family Medicine Clerkship is an eight-week clinical experience during which students participate in a unique breadth of patient care in the context of family and community. Students experience traditional office-based practice under the supervision of a community-based family physician preceptor. With the office practice as a base, the family physician serves all aspects of patient care involving both inpatient and outpatient settings, ranging from the hospital to the nursing home. Students are placed with family physicians that practice the full breadth of the discipline, including obstetrical care, whenever feasible. The department maintains a wide array of approved clinical training sites throughout the state of Tennessee and works closely with students to identify mutually agreeable clinical assignments. Student hardships will be considered in making the final assignment. The clerkship is a full-time learning experience, typically mirroring the family physician preceptor and including both weekend responsibilities and night call. Students have several written assignments to complete as well as assigned readings during the eight weeks. This clerkship is also offered in Knoxville (FME2-3001/F) and Chattanooga (FME3-3001/F). *Mode of delivery:* Clinical rotation. *Instructor of Record:* Jennifer Goodfred (Spring).
- MED1-3001/F** **Core Clerkship in Medicine** *Credit: 14* The clinical clerkship in medicine is designed to provide the medical student with an opportunity to learn by experience in patient care and by the examples set by the Faculty and house staff. The student is a participating member of the clinical team responsible for patient care that includes residents and the attending physician. A student is expected to: 1) acquire skill and efficiency in history taking and physical examinations, in technical procedures, in the assembly and interpretation of laboratory data, and in patient diagnosis and management; 2) apply to clinical problems the knowledge and facts acquired in the biomedical sciences; and 3) read current medical journals as well as textbooks. Each student is assigned to the University Medical Services at the Veterans Affairs Medical Center, the Regional Medical Center or Methodist University Hospital for the eight-week rotation. At the mid-point of the clerkship, each student will switch from one hospital assignment to another. Alternatively, students may rotate through Baptist Hospital in Nashville for four weeks of their rotation (MED4-3001/F). This clerkship also is offered in Knoxville (MED2-3001/F) and Chattanooga (MED3-3001/F). *Mode of delivery:* Clinical rotation.
- NEU1-3001/F** **Core Clerkship in Neurology** *Credit: 7* This four-week experience is offered in an eight-week rotation in concert with the Psychiatry Clerkship. The clinical sites for the clerkship are at Baptist Memorial Hospital, Methodist University Hospital, and the Veterans Affairs Medical Center. The major emphasis is on developing skills in neurological history taking and in the performance and interpretation of the neurologic examination. The clinical correlations of neurostructure and function taught in Neurosciences are expanded upon in the clinical setting. An exposure to the various categories of neurologic disorders and their pathophysiology is provided. The diagnostic approach to the patient stresses both anatomic and etiologic considerations. Neurology is a focal point for the dynamic advances in our understanding of the pathogenesis of disease and related new therapies. This clerkship is offered in Memphis (NEU1-3001/F) and Chattanooga (NEU3-3001/F). *Mode of delivery:* Clinical rotation.
- OBG1-3001/F** **Core Clerkship in Obstetrics and Gynecology** *Credit: 14* This required eight-week clerkship is designed to familiarize the student with female pelvic anatomy and the normal menstrual cycle. In addition, obstetric and gynecologic history taking and pelvic examination are taught, along with the normal physiology of pregnancy and care of the normal pregnant woman through the antepartum, intrapartum, and postpartum course. Basic complications of pregnancy are covered, as well as specific diseases as related to pregnancy outcome. The gynecologic portion of the clerkship focuses on basic diseases which occur in the female pelvis, including infection, endometriosis, and cancer. This clerkship also is offered in Knoxville (OBG2-3001/F) and Chattanooga (OBG3-3001/F). *Mode of delivery:* Clinical rotation.

- PCM-3001/F** **The Principles of Clinical Medicine V** *Credit: 2* Pass/Fail The course is an “Introduction to Clerkships” week that consists of clinical knowledge, clinical skills and workshops. The goal is to provide students with basic clinical skills that will be useful on any clerkship. The content of the introductory week includes Code simulation with an Interprofessional team; introduction to clerkships by upper classmen; venipuncture; IV starts; Foley catheter insertion; clinical exam skills; patient safety and quality improvement; professionalism; surgical skills - knot tying, suturing and abscess drainage; blood and fluid replacement; EKG reading; X-ray reading; radiology; and more. Clinical reasoning and differential diagnosis of common complaints and communication skills are incorporated into the week and a panel of experts discuss risk management. *Mode of delivery:* Preclinical course. *Instructor of Record:* Beth Choby (Spring).
- PED1-3001/F** **Core Clerkship in Pediatrics** *Credit: 14* Four weeks of this eight- week required clerkship experience are in an ambulatory setting that includes: general outpatient care, subspecialty clinic experience and primary care in a private office setting. The other four weeks are spent on inpatient service, providing direct “hands-on” patient management. An eight-week lecture series covers the most relevant topics in pediatric care. Regular rounds with Faculty and house staff provide opportunities for interaction with all members of the health care team in managing the pediatric patient. This clerkship also is offered in Chattanooga (PED3-3001/F). *Mode of delivery:* Clinical rotation.
- PSY1-3002/F** **Core Clerkship in Psychiatry** *Credit: 7* This four-week clerkship is offered in an eight-week block in concert with the Neurology Clerkship. Students are assigned to a general inpatient service as their home base, gaining familiarity with diagnosis and treatment of severely disturbed patients. Additional time is organized around psychiatric services in a general medical setting (Consultation-Liaison or Emergency Room at the Regional Medical Center) or the Alcohol and Drug Rehabilitation Services at the Veterans Affairs Medical Center. Lectures, readings, case conferences, and outpatient clinic assignments round out the experience. The student is expected to gain a basic knowledge of psychiatric diagnosis, applied psychopharmacology, and non-pharmacologic treatment options. Emphasis is on information useful to students regardless of their future specialty choice. This clerkship is offered in Memphis (PSY1-3002), Chattanooga (PSY3-3002/F), and Knoxville (PSY2- 3002/F). *Mode of delivery:* Clinical rotation. *Instructor of Record:* Renate Rosenthal (Fall).
- SUR1-3001/F** **Core Clerkship in Surgery** *Credit: 14* This eight-week clerkship encompasses general, vascular, and trauma surgery. The objective of this clerkship is to familiarize the student with the basic pathophysiologic, diagnostic and therapeutic modalities involved in the art and science of surgery. The fundamentals taught in this rotation will be of benefit to individuals even if they do not choose a field of surgery as a career. The s are four weeks each in two different facilities. These facilities include the Veterans Affairs Medical Center, the Regional Medical Center, Baptist Hospital, St. Francis, and the Methodist University Hospital. In addition to this clinical involvement, each student is involved in small group conferences and an afternoon Didactic series delivered by members of the Faculty. The student also participates in a skills laboratory, videotape presentations, grand round sessions, and generous outpatient experiences. This clerkship also is offered in Knoxville (SUR2- 3001/F) and Chattanooga (SUR3-3001/F). *Mode of delivery:* Clinical rotation.

Location of Clinical Clerkship and Elective Offerings:

| | Memphis | Knoxville | Chattanooga | Nashville |
|--|---------|-----------|-------------|-----------|
| Family Medicine | x* | x | x | |
| Medicine | x | x | x | x |
| Neurology ^a | x | x | x | |
| Ob/Gyn | x | x | x | |
| Pediatrics | x | x | x | |
| Psychiatry ^a | x | x | x | |
| Surgery | x | x | x | |
| Ambulatory Medicine | x | x | x | |
| Senior Clerkship Medicine | x | x | x | x |
| Senior Clerkship (<i>any third year clerkship</i>) | x | x | x | |
| Surgery Specialties | x | x | x | |
| Specialty Clerkship | x | x | x | |
| Patient Safety/Quality Improvement Clerkship | x | x | x | |
| Electives | x | x | x | x |

^a *Psychiatry and Neurology are scheduled in the same eight-week period.*

*The Department of Family Medicine seeks to expose all medical students to primarily ambulatory-based medicine in the real-life office setting of practicing community family physicians. The department places students in locales throughout the state of Tennessee including urban, suburban, rural, and under-served communities. Whenever possible, student preferences for specific locations are taken into consideration. Students may request approved settings in their hometown or communities where they may stay with family or friends. Students are responsible for the costs associated with transportation, housing, and food.

Additional information on each clerkship can be found at:
<http://www.uthsc.edu/Medicine/medicaleducation/clerkships/>

Fourth Year – Clinical Rotations

The fourth year is composed of five 4-week clerkships, Principles of Clinical Medicine VI (longitudinal), Patient Safety / Quality Improvement (longitudinal) and four 4-week electives. These clerkships allow for increased responsibility in patient care as well as the opportunity to pursue areas of individual interest. The electives provide students with the opportunity to select the clinical or basic science experiences to best meet their particular career goals. More information is provided at http://www.uthsc.edu/Medicine/medicaleducation/fourth_year.php.

| Clerkships | Duration |
|---|--------------|
| Principles of Clinical Medicine VI | longitudinal |
| Ambulatory Medicine | 4 weeks |
| Surgery Specialties | 4 weeks |
| Specialty Clerkship | 4 weeks |
| Senior Clerkship in Medicine | 4 weeks |
| Senior Clerkship in any of the required M3 Clerkships | 4 weeks |
| Patient Safety/Quality Improvement | longitudinal |
| Required Electives* | 16 weeks |
| Optional Electives | 12 weeks |

**Elective Programs*: 16 weeks of half-time/full-time electives are required. (320 electives are available in Chattanooga, Jackson, Knoxville, Memphis and Nashville.) Electives can be viewed at: http://www.uthsc.edu/Medicine/medicaleducation/fourth_year.php

M4 Clerkships Descriptions

MED1-3002/F Senior Clerkship in Medicine (JI Med) *Credit: 7* The Senior Clerkship in Medicine places the student in a more direct role in patient care similar to an internship, but closely supervised and directed. The senior clerkship student will record the principal database (with resident or Faculty review and counter signature), develop an evaluation and treatment plan, and write orders on patients (to be reviewed, altered if necessary, and signed by the resident or Faculty prior to implementation). The student is introduced to responsibility for inpatient care in a setting in which the student is the initial evaluator of the patient's problems as outlined in the general instructions. The student develops conceptual and manual skills for evaluation and care of internal medicine patients and becomes more familiar in dealing directly with hospital and other paramedical personnel with an appreciation for the team approach to patient care. The student participates in two-hour rounds at least four days per week with the attending physician assigned to the service and consults daily with the resident house staff on each assigned patient. This clerkship also is offered in Knoxville (MED2-3002/F), Chattanooga (MED3- 3002/ F), and Nashville. *Mode of delivery*: Clinical rotation.

- MED1-3003/F Ambulatory Care** *Credit: 7* The objectives of the ambulatory clerkship are to provide: 1) an in-depth orientation to the evaluation, management and long-term clinical course of common medical problems which are handled by internists; 2) guidelines for recognizing common clinical problems which may be cared for in an ambulatory setting versus those which require hospitalization and/or referral for specialty or subspecialty care; 3) instruction in the unique principles of successfully providing medical care in the ambulatory setting; and, 4) instruction in health maintenance, disease prevention, and relevant clinical epidemiology. The student will work in a variety of clinical areas including general medicine clinics at the Regional Medical Center and Veterans Affairs Medical Center. There are also opportunities to participate in the Adult Special Care Clinic, Sickle Cell Clinic, Hypertension Clinic, and many of the subspecialty clinics such as Cardiology and Endocrinology. The student may spend some time with an internist in private practice. This clerkship also is offered in Knoxville (MED2- 3003/F), and Chattanooga (MED3-3003/F). *Mode of delivery:* Clinical rotation.
- PCM-3002/F The Principles of Clinical Medicine VI** *Credit: 1* Pass/Fail The curriculum is designed in a continuing medical education (CME) model. The goal is to enhance learner skills in the ability to develop life-long learning skills and effectively share learning in both academic and community settings through effective teaching. Successful completion of the curriculum requires both mandatory and optional didactic and experiential components. Workshops include interdisciplinary topics such as HIV/AIDS, hospital nutrition, end-of-life/palliative care, smoking cessation, integrative medicine, and medical disabilities. *Mode of delivery:* Clinical rotation. *Instructor of Record:* Beth Choby (Spring).
- PSQ1-2002/F Patient Safety/ Quality Improvement Clerkship** *Credit: 7* Pass/Fail The PSQI clerkship is a combination of an online course with an opportunity to review real patient safety cases or an opportunity to perform a quality improvement project. It allows an opportunity to participate in a structured, longitudinal curriculum while performing stepwise work on a Patient Safety/Quality Improvement Project (PSQI Project) under the tutelage of a quality improvement coach and requires a written report submission. Students will be involved in a Root Cause Analysis (RCA) session during their Ambulatory rotation in Memphis. Students who are offsite for the ambulatory clerkship will submit a written RCA report. Beginning with the Class of 2016, PS/QI will expand to become a 4 year longitudinal course and will expose students to Community Health (including Public Health), Service Learning, scholarly literature research, research in Health and Patient Safety and Quality Improvement, or other approved activity. Students will be required to do a project in one of the areas and present a poster which can be presented at any time during medical school. Students may choose the area in which to participate, however, all students will receive a foundation of basic understanding in each area. *Mode of delivery:* Clinical rotation. *Instructor of Record:* James Bailey (Fall).
- Senior Clerkship (JI Any) (FME, MED, OB/GYN, PED, PSYCH, NEURO, SUR) (3010/F to 3012/F)**
Credit: 7 Students are required to take a 4-week experience in any one of the core clerkships.
- SPE1-3001/F Specialty Clerkship** *Credit: 7* Pass/Fail This clerkship is offered in each block throughout the calendar year. Students will have a week each in Anesthesiology and ICU and 2-weeks in Palliative Care. If a student has had a block of ICU or Anesthesiology, they may substitute with Cardiology or Infectious Disease during the four-week clerkship. This clerkship is available in Knoxville (SPE2-3002/F) and Chattanooga (SPE3-3002/F). *Mode of delivery:* Clinical rotation.
- SUR1-3002/F Surgery Specialties** *Credit: 7* Pass/Fail This clerkship exposes the student to the Surgery Specialties of Orthopedics, Ophthalmology, Otolaryngology and Urology. This clerkship also is available in Knoxville (SUR2-3002/F) and in Chattanooga (SUR3- 3002/F). *Mode of delivery:* Clinical rotation. *Instructor of Record:* Sturla Canale (Spring).

Electives (7 credit hours each), clinical rotation. Sixteen weeks of two-week (half-time) or four-week (full-time) elective work are required and normally taken during the senior year. Both basic science and clinical electives of varying lengths are offered in a variety of settings with maximal learning opportunities. During this time, each student has the opportunity to: 1) select experiences that meet individual career goals, 2) study in depth in a clinical or basic science area, and 3) have increased responsibility in patient care under the direct supervision of the faculty. Electives are offered by the University of Tennessee, UT-affiliated hospitals, and (with approval) at other accredited medical schools.

The Elective Catalog is available at:

http://www.uthsc.edu/Medicine/Acad_Affairs/UME/Clerkships/Catalog.doc.

With proper selection, the electives program provides a varied and appropriate educational experience. This imposes a high level of responsibility on each student and with the limited elective time available, each student is encouraged to seek advice from as many different people as is practical.

Although prior approval by the course coordinator is not required for all electives, the responsibility of verifying the availability of an elective for a particular scheduling period rests with each student. For courses which indicate, "Consent of Course Coordinator" as a prerequisite, permission must be obtained from the course coordinator prior to scheduling.

A student may request an elective not currently listed in the Electives Catalog. Any specially designed elective requires approval of the involved faculty member, the appropriate departmental chair, and the Clinical Sciences Subcommittee. The Office of Medical Education has forms available for this purpose. Since the approval process for a special elective could require considerable time, students are advised to begin this process well in advance of the time at which the requested elective is to be scheduled.

SPECIAL PROGRAMS

NIH Medical Student Research Fellowship Program

The Medical Student Research Fellowship Program was established in 1978 to provide medical students with opportunities to engage in biomedical research. Since the inception of the program, over 800 medical students have received grants on a competitive basis and have conducted a wide range of projects during option periods. These research projects have generated numerous papers and abstracts in the scientific literature. Approximately 300 student researchers have presented their research findings at national and regional conferences. By introducing students to the possibility of a career in research, the goal of the program is to ease a serious shortage of young physicians entering research fields.

A grant from the National Institutes of Health provides 24 fellowships per year including stipends for a maximum appointment of three months in research under the supervision of College of Medicine faculty members who are established biomedical investigators. The program has had continuous NIH funding for 35 years. A number of other research training programs are available in the Clinical Research Center, the University of Tennessee College of Medicine, St. Jude Children's Research Center, the Graduate School of Medicine at the University of Tennessee Medical Center, Knoxville, and through various private foundations. M-1 students may participate during the summer. The M-2, M-3, and M-4 students may apply for support during their option blocks. All participants are expected to devote full-time effort to their projects. The Medical Student Research Fellowships are available on a competitive basis to all students in the College of Medicine who are in good academic standing. All applicants are reviewed for their scientific merit and perceived value as a research training experience. Selection is based on evaluation of proposals submitted jointly by students and their preceptors, the student's academic record, and the preceptor's curriculum vitae. Students are encouraged to submit their applications as soon as possible. The deadlines are: Summer Period – March 31; other Option Blocks – two months before the start of the requested research block. Every effort will be made to provide notification of awards as soon as possible.

For further information on research training opportunities, please contact: Syamal Bhattacharya, PhD Executive Director, MSRF Program (sbhattachary@uthsc.edu), 901-448-5676.

The COM also offers students other research opportunities. Additional program information can be found at http://www.uthsc.edu/research/student_research_programs/com_student_research/

M.D./PH.D. Program

The M.D./Ph.D. Program provides highly motivated and unusually qualified students with an integrated clinical and basic biomedical training program leading to both an M.D. and a Ph.D. degree. The program's goal is to prepare graduates with the skills needed to function independently in both clinical and basic research environments. The first and last two-year periods of the program contain the medical curriculum. The intervening three years are devoted to graduate study in a selected program offered through the UTHSC College of Graduate Health Sciences. Students must be accepted to the College of Medicine to be considered for admission to the M.D./Ph.D. Program. Additional program information can be found at <http://www.uthsc.edu/grad/Programs/index.php?page=Programs>.

GRADUATE MEDICAL EDUCATION

The National Resident Matching Program (NRMP)

The NRMP Match is a mechanism by which appointments to residency programs are made at a uniform time. It provides an impartial venue for matching applicants' preferences for residency positions with program directors' preferences for applicants. Each year approximately 16,000 U.S. allopathic medical school seniors compete for residency positions through the Match.

In the Match, all steps of the admissions process are carried out (by computer) at uniform times. ERAS is the Electronic Residency Application Service developed by the Association of American Medical Colleges to transmit via the Internet residency applications, personal statements, recommendation letters, deans' letters, transcripts, and other supporting credentials from medical schools to residency program directors. Program directors decide on the order in which they will offer positions to candidates, and transmit their Rank Order List to the NRMP via the internet. Applicants decide on the order in which they will accept offers from programs, and transmit their Rank Order Lists to the NRMP via the internet also.

The Match obviates what can be possibly premature decisions and less than comfortable direct interchanges between program directors and applicants in the offering and acceptance or rejection of positions.

In the Match, applicants and program directors obtain their highest possible choices as determined by their Rank Order Lists. A position is "offered" to an applicant whenever his/her name appears within the quota of positions offered by a program. An applicant "accepts" (is matched to) a position in the program highest on his Rank Order List that "offers" him/her a position.

In the Match, the Confidential Rank Order Lists are the sole determinants of offers and acceptances of residency positions. The only reason an applicant does not "accept" an offer from a particular program director is that the applicant preferred (ranked higher) another program from which he/she also received an offer. The only reason an applicant does not "obtain" (match to) a position in a particular program is that the program director preferred (ranked higher) other applicants.

Top choices on Rank Order Lists can be made by applicants and program directors in the order of desirability - they should ignore probability of acceptance. When an applicant is "offered" his/her first choice position, the match is final. His/her name is removed from the lists of all other programs, and their Rank Order Lists are adjusted as necessary, to maintain their quotas by including the next person down the list. If an applicant matches to a lower ranked program, the match is tentative. His/her name is removed from the lists of all programs ranked lower but is maintained on the lists of his/her higher-ranked programs. If his/her name should subsequently be included within the quota of a program he/she has ranked higher, he/she will be moved to the higher choice position. No matter how many top-ranked applicants "decline" offers from a given program, lower-ranked applicants who rank that program first will be matched to it as long as they are included in the program's unfilled quota.

For the Match to work optimally applicants must list (rank) all acceptable programs to which they have applied and program directors must offer positions to (rank) all acceptable applicants. Applicants must, as in any admissions process, rank a range of programs on their Rank Order Lists including lower choices of less desired but satisfactory programs. Applicants who do not match tend to be those with shorter Rank Order Lists and those who list only highly competitive programs. Program directors that rank only a few more of their applicants than they have positions or concern themselves about "how far down" their Rank Order List they go do not understand the Match. If, on the average, each applicant were to apply to five programs, the average program director would have an acceptance from only one out of every five (5) applicants to whom he/she offered (ranked) a position.

NRMP Special Cases

Public Health Services Programs

Students on these scholarship programs are also required to participate in the NRMP.

Armed Forces

Students on these scholarship programs are required to participate in the Armed Forces Residency Matching Program. This is conducted at an earlier time to allow students who are unmatched through the Armed Forces to secure a civilian position. Therefore, all students on Armed Forces scholarships are encouraged to enroll in NRMP as a backup.

Couples

Married/engaged/etc. couples may go through NRMP as a single unit through a special procedure or make arrangements outside NRMP.

Academic Progress

Students whose academic progress has been altered such that they will not complete all requirements for the M.D. degree on schedule may need to make special arrangements with the Office of Student Affairs.

NRMP approximate dates

Spring, Junior Year

- Initial information regarding NRMP distributed.

July, Senior Year

- Letters of recommendation with individual faculty members arranged;
- Appointment made with Office of Student Affairs for writing the Medical Student Performance Evaluation (Dean's Letter);
- Applications made to programs of your choice with interviewing appointments made.

August, Senior Year

- Students sign up with NRMP and send in registration fee.

February, Senior Year

- Receipt of Applicant and Hospital Confidential Rank Order List by NRMP.

March, Senior Year

- Results of "The Match"

Letters of Recommendation

It is suggested that students not seek letters of recommendation for residency training until the end of the third year. Every residency will require letters of recommendation from the chair of the department of the specialty you wish to enter and, generally, from two additional faculty members as well. Each student will be required to have a Medical Student Performance Evaluation (MSPE), which is prepared in the Office of Student Affairs.

STUDENT GOVERNANCE

Rules and regulations governing the organization and structure for each class are the sole responsibility of the Medical Student Executive Council (MSEC) and each respective class. Each class elects a slate of officers to formally represent them on all matters concerning their class. The initial election for the freshman class is held during the first month of school and is conducted by the MSEC. Officers elected serve for an interim period. After a period of the freshman year and at the end of every academic year, elections are held to elect officers for the coming year. These elections are conducted by the MSEC or by any officer running unopposed. At any time during the year, a recall petition signed by at least 25% of the class is grounds for a new election. The class president is the official liaison between the class and the administration and faculty. The president is also a voting member of the MSEC. Each class elects vice-presidents, a secretary and a treasurer. Each class elects three representatives to the MSEC, three representatives to the Honor Council, two representatives to the AIMS Council, and two representatives to the Professionalism Committee. These representatives support the class' interest in their respective organizations and report the actions of their group to the class. Students are urged to contact their class representatives to voice any concerns regarding the areas of the student organizations' responsibilities. Additionally, each class has a social committee of two or three students who plan class social events, and athletic directors to coordinate involvement in intramurals.

Medical Student Executive Council

Benjamin Maddox (M4), President

Caitlin Carr (M3), Vice President

The **Medical Student Executive Council** (MSEC) is the governing council of the student body of the University of Tennessee College of Medicine, representing the students to the administration and faculty of the University, and the Memphis community. The Council is headed by a President and Vice President, elected annually. Other recognized members of the Executive Council include:

- Four class representatives (16)
- Each class president (4)
- Honor Council representative (1)
- Appointees to the Executive Council to represent the student body on the following committees:
 - Basic Sciences Subcommittee (4)
 - Clinical Sciences Subcommittee (2)
 - Committee for Undergraduate Medical Education (2)
 - Organization of Student Representatives (OSR) to American Association of Medical Colleges (2)
 - Principles of Clinical Medicine liaison (2)
- One representative from each medical student organization that is registered with the Office of Student Life, including but not limited to:
 - American Medical Association-Medical Student Section (1)
 - American Medical Student Association (1)
 - Family Practice Student Association (1)
 - Phi Chi Medical Fraternity (1)
 - Student National Medical Association (1)
 - CIAO representative (1)

The Council serves to represent all students in the College of Medicine, addressing academic, financial, social, and other issues affecting the students' overall learning experience. MSEC meetings are held weekdays in the Student Alumni Center and are open to all students in the College of Medicine. Meetings are periodically visited by the Executive Dean of the College of Medicine, Associate Dean of Medical Education, and Associate Dean of Admissions and Student Affairs. Student input is highly valued and sought by the administration. Many of the changes in the curriculum are a direct result of MSEC action and support, either from the Council itself or its representatives on the Committee on Undergraduate Medical Education, Clinical Sciences Subcommittee, and Biomedical Sciences Subcommittee. These representatives report directly to the MSEC, as do the various other committee representatives. The effectiveness of the Council is related directly to its leadership and participation.

Minutes of the weekly meetings of the Medical Student Executive Council (MSEC) are posted on class bulletin boards and the lobby of the Cecil C. Humphreys General Education Building (GEB), and the lobby of the Student Alumni Center (SAC). A copy of the minutes is posted on the MSEC website and may be mailed to students via the student listservs. A permanent record is kept on file in the Office of Student Affairs.

Student Government Association Executive Council (SGAEC)

The Student Government Association Executive Council provides representation for all students at the UTHSC campus. The presidents of each college within the UTHSC system form this student government body. The president of the Medical Student Executive Council is the College of Medicine student representative on the SGAEC. The SGAEC studies matters of importance to students and submits recommendations expressing student views and concerns to the administration and faculty of the Health Science Center.

Honor Council

The UTHSC College of Medicine's Honor Code was established in 1960 and is one of the oldest codes among U.S. medical schools. Please refer to the Honor Code section of this Catalog for the special provisions of the UTHSC Honor Code that pertain to the College of Medicine.

Professionalism Committee

The Professionalism Committee deals with unprofessional behavior between peers, peers and faculty, and toward patients and staff. The committee consists of three (3) elected members from each medical school class and is responsible for fostering patient welfare, colleague cooperation and teamwork, personal growth, civic duty, professional ethics, honesty, integrity, accountability, respectful attitudes, and commitment to excellence.

STUDENT ORGANIZATIONS, INTEREST GROUPS, AND ACTIVITIES

Organization of Student Representatives (OSR)

The Organization of Student Representatives provides student input to the AAMC and its Council of Deans. Each of the 141 American Medical Schools elects a student representative to this organization. The Medical Student Executive Council annually elects this representative. The OSR has annual national and regional meetings. During these meetings, the student members discuss the status and trends in medical education, and pass resolutions reflecting the organization's position on important issues. These positions are then sent to the Council of Deans, the governing body of the AAMC. OSR representatives sit as members of the Committee on Undergraduate Medical Education (CUME).

Alpha Omega Alpha Honor Medical Society (AOA)

Alpha Omega Alpha (AOA) is an esteemed society whose purpose is to perpetuate excellence in medicine. Selection to AOA is competitively based upon academic achievement and demonstration of attributes exemplary of a physician. The society sponsors two programs annually: AOA Distinguished Professorship and AOA Student Research Day.

American Medical Student Association (AMSA)

The American Medical Student Association is a national organization which offers students the opportunity to become involved in community outreach projects through locally organized chapters. AMSA is well known for its commitment to facilitating student impact on medical education and practice. As a national organization, AMSA offers many opportunities, such as preceptorships in a variety of specialties across the country, information regarding International Health Electives, participation in the International Medical Student Association, and access to experiences of other AMSA chapters. AMSA task forces include Nutrition and Preventive Medicine, Death and Dying, Women in Medicine, Law and Medicine, and many others. Involvement with AMSA also affords students the opportunity to meet and work with students attending other medical schools via regional and national conferences. Activities of the UT AMSA chapter have included discussion of clinics by M-3s and M-4s, ongoing M-1 support group, blood pressure screenings in the community with the Memphis High Blood Pressure Coalition and CPR training sessions. The UT AMSA chapter is a forum for student concerns, both personal and professional.

American Medical Association Medical Student Section (AMA-MSS)

The AMA-MSS is a national organization of medical student members of the AMA which is dedicated to the health of America. The AMA-MSS offers students unique opportunities to interact with students and physicians from across the state and the country. UTHSC has a long tradition of producing national leaders for the AMA-MSS. As a member of the AMA-MSS, students are full members of the AMA and as such receive all the benefits that are available to physician members of the AMA including subscriptions to JAMA, AM News – a weekly update on issues facing medicine, and Members Matters - a newsletter published by the AMA with more immediate concerns facing medicine. Members receive a free copy of the Drug Evaluation textbook, a helpful resource during Pharmacology. UTHSC members also receive the Journal of the Tennessee Medical Association (TMA) and other publications from the TMA. On a local level, members receive Memphis Health Care News and updates from both our local chapter and the Memphis-Shelby County Medical Society. Members also receive special banking and insurance benefits through the AMA, as well as having the full resources of the AMA to call upon whenever needed for researching issues to finding information of externships and residencies. The local chapter also conducts a physician match program which matches M-1 and M-2 students with local physicians for a day to shadow them to learn more about the actuality of practicing medicine. UT's AMA-MSS chapter also conducts several seminars each year that offer students educational opportunities outside the traditional curriculum.

Council on International Outreach (CIAO)

The Council on International Outreach is the umbrella organization for all student outreach initiatives in the College. It serves to strengthen student commitment to the local community, promote awareness of global health care needs and our responsibility to meet these needs. CIAO facilitates opportunities for education abroad and supports student organizations engaged in public service. CIAO helps to set a standard of global responsibility by demonstrating the willingness of future physicians to help others. The organization is composed of students and faculty members from the College of Medicine as well as members from the community at large. Additional information may be obtained through the Office of Student Affairs.

Family Medicine Student Association (FMSA)

The Family Medicine Student Association is a service organization open to all medical students and their spouses. FMSA provides opportunities for students to become involved in addressing vital concerns and issues facing medical students, e.g., malpractice insurance issues, practice management, primary care physician distribution and manpower needs, and planning for the medical marketplace. Many students participate in the Family Practice Preceptorships during the summer between their first and second years.

The Student National Medical Association (SNMA)

The SNMA, founded in 1964, is a nonprofit corporate association of medical students of color. SNMA is committed to increasing the pipeline of students of color that consider and prepare for medical and scientific careers. The SNMA is dedicated to:

- 1) leadership development by augmenting and enhancing individual efforts as well as providing collective group development of medical students of color;
- 2) social awareness through student interaction with minority consumers and other health professional groups to keep abreast of social changes and their implications for the minority communities; and,
- 3) service to humanity through a commitment to professional excellence which will ultimately benefit others in their chapters and in the community.

The SNMA supports the concept of a well-rounded, thoroughly trained physician - one who can treat people, not just disease - and who can communicate with and understand the health needs of all Americans.

Student Clinician's Ceremony (SCC)

The SCC is a transitional experience designed to provide guidance, information and support to medical students beginning their clerkships. Created by the Gold Foundation, the event is developed by students with the assistance of a faculty mentor, and aims to address some of the anxiety felt by students entering their clerkships. By providing insight, discussing fears and expectations, and revisiting the oath taken during the White Coat Ceremony, the SCC provides a forum for collective and reflective discussion of the students' experiences in medicine to date. The ceremony also underscores the challenges and imperatives to providing humanistic care to patients at the same time as they are pressed to demonstrate high standards of skill performance. The Student Clinician's Ceremony also recognizes outstanding residents through the Gold Foundation's **Humanism and Excellence in Teaching Award**. Third year students select up to six residents to receive the Gold Foundation Humanism and Excellence in Teaching Award, based on their demonstration of commitment to teaching and compassionate treatment of patients and families, students and colleagues. Each award winner is presented with a certificate, a specially designed lapel pin and a check for \$250 from the Gold Foundation. The awardees are also showcased on the Accreditation Council for Graduate Medical Education (ACGME) website.

Student Interest Groups

Anesthesia Student Interest Group

Faculty Advisor: Howard R. Bromley, M.D., MBA

- a. Purpose:** To inform medical students about the specialty field of Anesthesiology
- b. Dates and location:** Meets PRN per call of the group's president
- c. Membership Criteria:** Open to any faculty and students.

Emergency Medicine Interest Group

- a. Purpose:** Introduce students to the study of emergency medicine as a specialty and serve as a source of information for students who wish to pursue residency training in emergency medicine.
- b. Dates and Location:** Meetings are monthly; location varies.
- c. Membership Criteria:** Membership is open to anyone with an interest in emergency medicine. No dues are required.

Family Practice Student Association

Faculty Advisor: Jennifer Goodfred, D.O.

- a. Purpose:** Introduce family practice residents and physicians to hands on training, educational opportunities and speakers.
- b. Dates and Location:** Scheduled monthly on Tuesday evenings at the GEB or SAC.
- c. Membership Criteria:** Ten dollars per year membership fee which entitles members to receive monthly and quarterly journals.

Internal Medicine Interest Group

Faculty Advisor: Kim Huch, M.D., FACP

- a. Purpose:** To inform medical students of the many opportunities in a career in Internal Medicine
- b. Dates and Location:** TBA
- c. Membership Criteria:** Open to anyone with an interest in Internal Medicine

Special Interest Group in Neurology (SIGN)

Faculty Advisor: Mervat Wahba, M.D.

- a. Purpose:** Introduce students to the study of Neurology as a specialty and serve as a source of information for students who wish to pursue residency training in Neurology.
- b. Dates and Location:** Meetings are semiannual; location varies
- c. Membership Criteria:** Open to anyone with an interest in Neurology. No dues are required.
- d. Additional benefits:** Scholarship funds are often available to those students who wish to attend the annual meeting of the American Academy of Neurology.

Ob/Gyn Student Interest Group

Faculty Advisor: Owen Phillips, M.D.

- a. Purpose:** The Ob-Gyn special interest group educates students about career opportunities in women's health through discussions of health related issues particular to women.
- b. Dates and Location:** Meetings bi-monthly; location varies
- c. Membership Criteria:** Open to any faculty and students.

Student Interest Group in Ophthalmology (SIGIO)

Faculty Advisor: William R. Morris, M.D.

- a. **Purpose:** Educating medical students at the University of Tennessee College of Medicine about the specialty of Ophthalmology as a career choice; Increasing students' knowledge of diseases of the eyes and their adnexae, examination techniques, and the eyes' relationship to systemic diseases; Offering opportunities for medical students to become involved in community service, research, or other scholarly activities of the Department of Ophthalmology at the University Of Tennessee Health Science Center College Of Medicine.
- b. **Dates and location:** Approximately once quarterly
- c. **Website:** <http://www.uthsc.edu/eye/sigio/index.php>

Pediatric Issues Student Association (PISA)

Faculty Advisor: Valerie Jameson, M.D.

- a. **Purpose:** PISA was founded in 1997 by a group of students interested in providing young physicians with additional information and exposure to pediatrics. PISA arranges guests to speak on topics such as residency programs, childhood development, child abuse, and community service projects. The goal of this organization is to help students with difficult career decisions. PISA also serves to assist students interested in pediatrics with finding mentors, applying for residencies and making important class decisions.
- b. **Dates and Location:** This group meets three times a term at the Le Bonheur auditorium.
- c. **Membership Criteria:** Open to any student or faculty member sharing an interest or love for children.

Psychiatry Student Interest Group (PSYCHSIGN)

Faculty Advisor: Iverson Bell, MD

- a. **Purpose:** To provide a forum for students interested in the psychological aspects of medical care, and to serve as a source of information and guidance for students who want to explore specialty training in psychiatry
- b. **Dates and Locations:** TBA
- c. **Membership Criteria:** Open to any student and faculty member sharing an interest in human behavior, and in the complex interplay between mental and physical processes in health and disease.

Student Surgical Society

Faculty Advisor: Gayle Minard, M.D.

- a. **Purpose:** Provide career counseling, fellowship and professional mentoring opportunities to medical students in pursuing professions in general surgery and the surgical subspecialties.
- b. **Dates and Location:** Meetings are monthly; location varies.
- c. **Membership Criteria:** Medical students enrolled at The University of Tennessee Health Science Center College of Medicine.

Phi Chi Fraternity

Phi Chi is the nation's largest medical fraternity with more than 45,000 members worldwide. There are over 350 Phi Chi alumni in Memphis alone, many of whom are active in the Alumni Association. Located on the University of Tennessee Health Sciences Center campus in Memphis, TN, the Alpha Beta chapter of Phi Chi is the largest chapter of the largest medical fraternity in the country. The goal of Phi Chi is to offer all medical students an opportunity to join an organization that will help them make the best of their medical school years. The UT Chapter, chartered in 1914, welcomes both male and female members and offers housing opportunities as well as social and professional programs and activities.

INTERDISCIPLINARY PROGRAMS

A number of activities with clinical, educational or research components require active collaboration of a variety of disciplines. In order to facilitate development of programs with multi-department and multi-college participation, several programs have been designated as interdisciplinary programs. Interdisciplinary programs imply more than close cooperation on campus; they also involve coordination of all private and public efforts in a particular field. Thus, interdisciplinary programs fit the description of being organized scientific activities “without walls.”

Center for Integrative and Translational Genomics

This interdisciplinary center builds upon a strong base in functional genomics and bioinformatics that extends from Knoxville, through Oak Ridge, to Memphis. The purpose of the Center is to provide infrastructure and expertise to catalyze a broad range of research projects and university-industry collaborations that exploit cutting edge techniques to delineate the function of genes in biology. The Center works closely with faculty across departments and schools throughout the UT System (UTK, UTHSC, and UTSI), Oak Ridge National Laboratory (ORNL), and St. Jude Children’s Research Hospital (SJCRH).

Vascular Biology Center of Excellence

Research scientists in the Vascular Biology Center seek to define key risk factors for vascular disease and understand how these factors increase the risk of disease. To accomplish these goals the Center combines the basic research and clinical environments. As a result of combining these environments, the Center is ensuring rapid translation of research findings into patient care, thereby saving lives and improving the quality of life for vascular disease patients; heightening local and national awareness of vascular disease prevention and care; expanding and integrating existing research opportunities within the university to foster cooperative and effective research between various medical disciplines; and training tomorrow’s investigators to be individual thinkers.

Center of Excellence for Diseases of Connective Tissue

Scientists in the Center of Excellence for Diseases of Connective Tissues conduct basic research in five broad areas: Autoimmune diseases (such as rheumatoid arthritis and lupus); degenerative diseases (such as osteoarthritis and degenerative disc disease); inflammation and the basic science of how the body reacts to injury; fibrotic diseases (such as heart failure and emphysema), and clinical research.

It is from clinical service, clinical and basic research and teaching that the center derives its strength. Major center components include research focused on understanding the cause and origin of connective tissue disease by using animal models and in vitro cell culture systems, designing new diagnostic tests for diseases of connective tissue, and developing novel therapies and prosthetics to treat these diseases.

Carolyn P. and Edward J. Boling Center for Developmental Disabilities

The Child Development Center was established in January 1957, under a grant from the United States Children’s Bureau through the Maternal and Child Health Division of the Tennessee Department of Public Health. The current facility was constructed with a grant from the United States Public Health Service in March 1966. The building was renamed the Boling Center for Developmental Disabilities (BCDD) in honor of retired UT President Boling and his wife in 1988.

BCDD is one of sixty-one federally funded university centers for excellence in developmental disabilities, education, research, and service. Program goals are to: provide interdisciplinary training; develop innovative clinical service programs; and deliver technical assistance and consultation to those local, state, and federal programs that address the needs of individuals with developmental disabilities.

Training programs within the BCDD include: developmental pediatrics, biochemistry of metabolic disorders, clinical genetics, and child psychiatry, as well as audiology, dentistry, nursing, nutrition, occupational therapy, physical therapy, psychology, special education, speech pathology, and social work. Training efforts are largely directed at the graduate level, and fellowships are offered in most disciplines. Training opportunities are also available to students at the undergraduate level. Cooperative programs housed in the BCDD include: Harwood Day Training Center, Memphis Oral School, Exceptional Children's Clinic, UT Child Care Laboratory, BCDD Demonstration School, and Adolescent Day Treatment Program.

A unique feature of the BCDD is the interdisciplinary approach to both service and training. Trainees in every discipline have opportunities to work with professionals in other disciplines and to understand each professional's contribution to the diagnostic and treatment process. The interdisciplinary environment also provides a setting in which children and adults with complex problems can receive diagnostic and treatment services.

University of Tennessee Center for Cancer Research

The University of Tennessee Center for Cancer Research, established in its present form in early 1985, is dedicated to research and education in cancer and cancer-related disorders. Membership in the Cancer Center is voluntary, is open to any interested faculty or community health professional, and is intended to promote scientific collaborations among investigators from many disciplines. The Cancer Center and its members are responsible for the development and application of new knowledge to patient care and to the prevention and early detection of cancer. The Cancer Center is a full, active member of a national multidisciplinary cooperative clinical trial group funded by the National Cancer Institute and enrolls patients to investigational treatment protocols in leukemia, lymphoma, breast, and respiratory cancer. Basic research programs include population pharmacokinetics, cancer pharmacology, and tumor cell biology. The Cancer Center is also involved in funded research and community service projects in cancer control and cancer education.

Molecular Resource Center

The Molecular Resource Center of Excellence (MRC) serves as an interdisciplinary resource for basic biomedical and clinical investigators. The Center was established to develop the facility and expertise needed for a basic science or clinical investigator to begin with a purified protein and isolate its cognate gene. Conversely, the investigator may begin with a gene that can be easily cloned and isolate its cognate protein. Once a desired gene has been cloned or a protein purified, the facility permits full structural determination and manipulation of both molecules. The Center consists of four facilities: Gene Cloning and DNA Sequencing, Oligonucleotide Synthesis, Peptide Synthesis, and DNA-chip array. Additional facilities include a laser-driven dual beam flow cytometer that will permit analysis and sorting of up to seven different cell types, and a protein analysis laboratory consisting of peptide isolation and mapping facilities, amino acid and primary sequence analysis facilities and computer-based molecular modeling capabilities.

The Center for Neuroscience

The first of its kind in Tennessee, The Center for Neuroscience was established in 1985 through the State of Tennessee Better Schools Program. In 1988, the Tennessee Higher Education Commission designated it an Accomplished Center of Excellence because it had become one of the largest integrated neuroscience research and training programs in the U.S. and an internationally recognized center for neuroscience. The Center for Neuroscience is a multidisciplinary program, which includes faculty from twelve departments in the College of Medicine (four basic sciences and eight clinical sciences departments). The interdepartmental nature of the program provides the collaborative environment necessary for quality neuroscience research. Research directions are diverse, with emphases on movement disorders, including Parkinson's disease, Huntington's chorea, and muscular dystrophy; visual function and eye diseases; developmental neurobiology; and molecular neuroscience/genetics. Other areas include neuroendocrine regulation and the neuronal control of cardiovascular function, sleep, cerebral circulation and metabolism, the biochemical analysis of peptides, and brain modeling.

Center for Pediatric Pharmacokinetics and Therapeutics

The Center for Pediatric Pharmacokinetics and Therapeutics (CPPT) was formally established in July 1986 at The University of Tennessee Health Science Center by a grant from the State of Tennessee. This grant provided the additional funding necessary to build a comprehensive, multidisciplinary Center of Excellence committed to the development of new knowledge related to drug disposition and effects in children. Prior to establishing the Center, faculty investigators at The University of Tennessee, Le Bonheur Children's Medical Center, St. Jude Children's Research Hospital, and the Regional Newborn Center had over \$1 million of extramurally funded research related to pediatric pharmacokinetics and pharmacodynamics. The CPPT was built upon this strong foundation, providing new resources and bringing together the requisite expertise in pediatrics, clinical pharmacokinetics, pharmacodynamics, pharmacology, pharmacogenetics and related disciplines. By establishing several CORE laboratories as shared resources for Center faculty, the CPPT has facilitated collaboration and coordination of a multidisciplinary group of investigators at the University of Tennessee Health Science Center. The CPPT has over 20 full-time faculty investigators who are directing extramurally funded research programs related to the pharmacokinetics and pharmacodynamics of drugs in children.

The Brain Injury Research Center

The Brain Injury Research Center is a regional consortium that includes membership from ten participating institutions. The consortium includes the following: Colleges of Allied Health Science, Dentistry, Medicine and Nursing at The University of Tennessee Health Science Center; The Regional Medical Center at Memphis; the Baptist Memorial Hospital; the Veterans Administration Medical Center; the Semmes Murphey Clinic; the Le Bonheur Children's Medical Center; the Methodist University Hospital; Memphis Neuroscience Center; St. Jude Children's Research Hospital; and the Epi Care Center. The major aims of this Center are to standardize clinical therapies, to better assess new protocols, to increase research related to brain injury, and to heighten community awareness.

The Center for Prevention and Health Services Research

The Center for Prevention and Health Services Research, in collaboration with the University of Memphis and other area universities and health care organizations, serves as a catalyst to stimulate the growth of important research whose purpose is to improve the database, quality, access and efficiency of clinical and prevention health services for adults of all races and economic status in the State of Tennessee. The major objective of the Center is to develop collaborative research relationships with many departments and colleges both at the University of Tennessee Health Science Center and in other area institutions.

LECTURESHIPS

Alpha Omega Alpha Lectureship: The local chapter of Alpha Omega Alpha sponsors a visiting lectureship during the spring of each year.

James H. Horner Distinguished Visiting Professorship: James H. Horner was a medical student who died shortly before his medical school graduation in 1983. Dr. Horner's family established this distinguished Professorship "to promote education, compassion, and academic excellence in the practice of medicine." This Professorship is held in conjunction with the annual alumni weekend.

Henry B. Brackin Lectureship: This lectureship, sponsored by an anonymous donation honoring Dr. Brackin, makes possible an annual lectureship in some area of psychiatry.

Eleanor and James N. Etteldorf Lectureship: This annual lectureship in pediatrics, established by Dr. James N. Etteldorf, includes symposiums composed of visiting and resident faculty.

T.S. Hill Lectureship: This lectureship in psychiatry was established to honor Dr. T.S. Hill, Professor Emeritus and Chairman of the Department of Psychiatry from 1941 to 1963.

McDonald Lectureship: This lectureship was established for invited faculty to participate in lectures and rounds with students and residents and other members of the Section of Hematology in the Department of Medicine.

Israel David Michelson Visiting Professorship: This lectureship in pathology is funded through an endowment established by friends and colleagues of Dr. Michelson.

R.R. Overman Lectureship: This lectureship is funded through an endowment created from the gifts of former students and colleagues of Dr. Richard R. Overman and provides an annual lectureship.

Quarterly Visiting Professorship in the Department of Pediatrics: Various guest faculty lectures in the Department of Pediatrics are presented quarterly and funded by an anonymous source.

Irving Shelton Lectureship: Lectureships in psychiatry were established through a contribution of Mr. Irving Shelton, the publisher of Disease of the Nervous System (now the Journal of Clinical Psychiatry).

Karl L. Smiley, Jr. Lectureship: The purpose of this lectureship is to provide a participatory lectureship for graduate student education and enrichment reflecting current interests in the field of microbiology.

Phineas J. Sparer Distinguished Visiting Professorship: Established by a gift from Mrs. Florence Sparer in memory of her husband, the visiting Professorship rotates annually between the Departments of Psychiatry and Preventive Medicine.

Therapeutics Lectureship: This lectureship is to provide lectures in clinical pharmacology.

Charles C. and Mary Elizabeth Lovely Verstandig Distinguished Visiting Professorship: This endowment provides for an annual distinguished visiting Professorship in various areas of academic interest.

Harwell Wilson Distinguished Visiting Professorship and The Harwell Wilson Visiting Lecture in Surgery: An endowment created by the friends of Dr. Harwell Wilson provides a distinguished visiting Professorship and an annual lectureship in surgery.

Edwin H. Beachey Distinguished Visiting Professorship: Dr. Ed Beachey, a former University of Tennessee professor, chief of Infectious Disease and associate chief of staff for research at the Memphis VA Medical Center has been honored in this annual lectureship since 1991. Dr. Beachey's life's work was dedicated to pathogenesis of Streptococcal disease and developing a vaccine for Group A Streptococcus.

Neuton Stern Visiting Professorship: Dr. Neuton Stern brought the first ECG to the South when he returned from Harvard to practice in Memphis. He was a founding member of the American Heart Association and the first diplomat of the National Board of Medical Examiners in Tennessee.

ADDITIONAL GENERAL INFORMATION FOR STUDENTS

Additional Sources of Information

The official Student Handbook, CenterScope, is available at <http://www.uthsc.edu/centerscope/>. Students also are strongly encouraged to refer to <http://www.uthsc.edu/Medicine/OLSEN/> for complete information on academics, exams, curriculum, clerkships, policies and guidelines, available resources, student services, available study space, and general information.

Campus Publications

The College supports a number of publications that are of particular interest to medical students including: The Record, Student Life Newsletter, Activities Calendar, and MSEC Minutes. The Record, published by the Office of Communications and Marketing, is a bi-monthly newsletter for faculty, staff, and students. It is distributed both electronically and in hard copy format throughout campus and selectively to alumni, friends of the University, and others.

Housing

Memphis

Currently, there is no on-campus housing in Memphis. A variety of housing options are available off campus. UTHSC has contracted with Off Campus Partners to assist students seeking housing off campus. For listings and additional information please see <http://www.uthscoffcampus.com/>.

Fraternity Housing

The Phi Chi Fraternity houses 28 persons and is two blocks from the Wassell Randolph Student-Alumni Center. The house is completely furnished with central heat and air, washer, dryer, color TV, table tennis, and a kitchen where students may prepare meals and snacks. Nonmembers are welcomed. Phi Chi invites any medical student interested in additional information to write to:

**House Manager
Phi Chi Fraternity
687 Jefferson Avenue
Memphis, Tennessee 38105**

Chattanooga, Knoxville and Nashville

Many junior and senior students choose to complete rotations in Chattanooga, Knoxville or Nashville. For questions or assistance on housing, contact the Office of Medical Education. The following persons can provide assistance relative to these campuses:

Ms. Liz McGhee, Medical Education Office
UT College of Medicine-Chattanooga
960 East Third St., Suite 104
Chattanooga, Tennessee 37403
Phone: (423) 778-7442

Ms. Missy Maples, Office of Student Affairs
Graduate School of Medicine at UTMCK
1924 Alcoa Highway, Third Floor
GSM Building, Room 327
Knoxville, Tennessee 37920
Phone: (865) 544-9618

Ms. Jeanne Stoker, Baptist Dept. of Internal Medicine
University of Tennessee, Nashville
2000 Church St. Nashville, TN 37236
Phone: (615) 284-3353.

FACULTY LIST

Bailey, James E., Professor, 1994; Doctor of Medicine, University of Alabama at Birmingham (1990); Master of Public Health, University of Alabama at Birmingham (1992)

Behrman, Stephen, Professor, 1997; Doctor of Medicine, Boston University (1987); Bachelor of Arts, Boston University (1982)

Brewer, Susan Crouch, Associate Professor, 1987; Doctor of Medicine, University of Tennessee Health Science Center (1990)

Canale, Sturla Terry, Professor and Chair, 1974; Doctor of Medicine, University of Tennessee Health Science Center (1967)

Chesney, Russell W., Professor, 1962; Doctor of Medicine, University of Rochester (1968)

Choby, Beth A., Associate Professor, 1995, Bachelor of Arts in Biology, West Virginia University (1991), Doctor of Medicine, West Virginia University School of Medicine (1995)

Cohen, Shannon, Clinical Assistant Professor, 1994; Doctor of Medicine, University of Tennessee Health Science Center (1997)

Coyle, Brent, Assistant Professor, 2013; Doctor of Medicine, University of Minnesota (1986)

Croce, Martin, Professor, 1989; Doctor of Medicine, University of Tennessee Health Science Center (1983)

Daley, Brian J., Professor and Associate Director, 1996; Doctor of Medicine, Tulane University (1986); Master in Business Administration, University of Tennessee, Knoxville (1998)

Dassow, Jeanie D., Assistant Professor, 2010; Doctor of Medicine, University of Kentucky (1987)

Elmore, Thomas D., Associate Professor, 1997; Doctor of Medicine, University of Tennessee Health Science Center (1978)

Goldman, Mitchell H., Professor and Chair, 1984; Doctor of Medicine, Harvard University (1970)

Goodfred, Jennifer Celeste, Assistant Professor, 2003; Doctor of Osteopathic Medicine, University of Pikeville - Kentucky College of Osteopathic Medicine (2003)

Greer, Michael S., Associate Professor, 1992; Doctor of Medicine, University of Tennessee Health Science Center (1978)

Holmes, Terry, Assistant Professor, 2010; Doctor of Medicine, Baylor College of Medicine (1974); Master of Public Health and Tropical Medicine, Tulane School of Public Health (1977)

Jameson, Valerie P., Associate Professor, 1992; Doctor of Medicine, Tulane University (1982)

Lewis, James B., Professor, 1980; Doctor of Medicine, Johns Hopkins University (1976)

Malakoff, Gary Lee, Associate Professor, 2009; Doctor of Medicine, George Washington University (1982)

Maxwell, Robert A., Professor, 1997; Doctor of Medicine, Medical College of Virginia (1992)

Mendiratta, Sudave Daniel, Assistant Professor, 2008; Doctor of Medicine, Vanderbilt University (2001)

Minard, Gayle, Professor, 1989; Doctor of Medicine, University of Cincinnati (1981)

Nishimoto, Satoru Kenneth, Professor, 1988; Doctor of Philosophy in Biology, University of California, San Diego (1980)

Park, Melburn R., Associate Professor, 1983; Doctor of Philosophy in Physiology, State University of New York, Buffalo (1974)

Pulsinelli, William A., Professor, 1992; Doctor of Medicine, University of Utah (1973); Doctor of Philosophy in Biological Chemistry, University of Utah (1972)

Purkey, Janet L., Associate Professor, 1987; Doctor of Medicine, University of Tennessee Health Science Center (1987)

Rosenthal, Renate H., Professor, 1975; Doctor of Philosophy in Psychology, University of Arizona (1975)

Ryan, James Patrick, Associate Professor and Assistant Chair, 1988; Doctor of Philosophy in Microbiology, University of North Carolina at Chapel Hill (1985)

Stevens, Cathy A., Professor, 1982; Doctor of Medicine, University of Tennessee Health Science Center (1982)

Stockton, M. David, Professor, 1987; Doctor of Medicine, University of Tennessee Health Science Center (1978); Master of Public Health, University of Tennessee, Knoxville (1996)

Sweatman, Trevor W., Professor, 1983; Doctor of Philosophy in Clinical Pharmacology, Southampton University Medical School (1981)

Upadhyaya, Nirmala B., Associate Professor, 1991; Bachelor of Medicine, Bachelor of Surgery, Kurnool Medical College (1975); Diploma in Obstetrics and Gynecology, Kurnool Medical College (1978)

Wake, Robert W., Professor and Chair, 1985; Doctor of Medicine, University of Tennessee Health Science Center (1985)

Worthington, J. Mack, Professor and Chair, 1980; Doctor of Medicine, University of Texas Medical Branch (1975)



2013-2014 Catalog

COLLEGE *of* NURSING

920 Madison Avenue, Suite 1020 • Memphis, TN 38163 • Phone: (901) 448-6128
Website: www.uthsc.edu/nursing/

**Laura A. Talbot, PhD,
EdD, RN**
Dean

Patricia A. Cowan PhD, RN
Associate Dean for Academic Affairs
Wendy Likes, DNSc, PhD
*Associate Dean, Department of Advanced
Practice and Doctoral Studies*
Tommie Norris, DNS, RN
Associate Dean, BSN and MSN Department
J. Carolyn Graff, PhD
PhD Program Director

Option Coordinators:

Carol L. Thompson, PhD, DNP
*DNP Adult Gerontology Acute Care Nurse
Practitioner*
Irma Jordan, DNP
*DNP Family Nurse Practitioner and Family
Psychiatric/Mental Health Nurse Practitioner*

Susan B. Patton, DNSc
*DNP Pediatric Nurse Practitioner
and Neonatal Nurse Practitioner*
Jill D. Oswaks, DNSc
DNP Nurse Anesthesia
Patricia Speck, DNSc
*DNP Forensic Nursing
and Public Health
Nursing*
Sherry Webb, DNSc
MSN-Clinical Nurse Leader Program
Hallie Bensinger, MSN
BSN Program: RN to BSN
Jacqueline Sharp, MSN
BSN Program: Professional Entry

GENERAL INFORMATION

History

The College of Nursing is an autonomous unit of The University of Tennessee Health Science Center (UTHSC) and has a history dating back to 1898. The first public hospital in Memphis was established by an act of the Tennessee Legislature in 1829. Twelve years later, this small hospital meant for river travelers was replaced with a facility that was used as a military hospital during the American Civil War. It later became the Memphis City Hospital.

Memphis Training School for Nurses was chartered September 28, 1887, at a time when nursing education in the United States was still in its infancy. It was one of the first schools of nursing in the South and was the first in the Mid-South. In December 1887, the school accepted its first student, Lena Clark Angevine, who is now known as Tennessee's pioneer nurse. In 1898, a new city hospital along with the Nursing School of the Memphis City Hospital opened at 860 Madison Avenue, and the Memphis Training School for Nurses closed.

The medical staff of the hospital petitioned the Mayor to appoint Mrs. Lena Angevine Warner Superintendent of Nurses at the new nursing school. In 1913, the hospital became the teaching center of the College of Medicine of the University of Tennessee. In 1920, the Memphis General Hospital became a university hospital by contractual agreement when the University of Tennessee College of Medicine accepted responsibility for the medical care of the patients. In 1926, the University of Tennessee School of Nursing was created, and on November 9, 1926, the City of Memphis and the University of Tennessee entered into a contract governing the operation of the Memphis General Hospital by the College of Medicine. The University began operation of the School of Nursing in June 1927. In July 1949, the School of Nursing became an autonomous unit within the University.

In September 1950, the newly established Baccalaureate in Nursing (BSN) Program admitted 26 students. In 1972, the Master's program was developed and admitted students for the 1973 summer quarter. The PhD in Nursing began August 1988. The BSN program was held in abeyance in December 1997 allowing the College to focus entirely on graduate education. This focus provided the opportunity for development of the practice doctorate to meet future needs of an increasingly complex healthcare environment in Tennessee and the nation. The first students in the practice doctorate entered July 1999. The Doctor of Nursing Science (DNSc) degree designation for the practice doctorate transitioned to the Doctor of Nursing Practice (DNP) in 2005, in accordance with national trends.

In August 2003, the UTHSC and Methodist Healthcare of Memphis announced a unique partnership between the health system and the university's College of Nursing. The purpose of this partnership was to enhance delivery of nursing care by offering the full range of educational opportunities in nursing including an entry-level bachelor's degree in nursing, continuing with the master's degree, and concluding with the doctoral degree. Students entered College of Nursing programs at all levels of nursing education (BSN, MSN, DNP, and PhD) in July 2005. UTHSC received approval to open an entry level master's Clinical Nurse Leader and post-BSN master's CNL program in 2008 and the first professional entry students were admitted to the MSN-CNL program in June 2009 and graduated May 2011. Post-BSN/MSN-CNL admission to the DNP program occurred Fall 2009. The last advanced practice entry class at the master's level graduated December 2011.

The College of Nursing provides innovative education, patient care, and research programs throughout Tennessee and the Mid-South. Most degree programs in the College use state-of-the-art technology to bring nursing education to students in East Tennessee, rural West Tennessee, and across the mid-south. The faculty and staff deliver cutting-edge clinical services in many different locations. The faculty and students bring the science of caring to the daily lives of their patients. The internationally renowned research programs of the faculty advance the frontiers of knowledge in several areas.

Information taken from: From Diploma to Doctorate: 100 Years of Nursing Education by E. Dianne Greenhill, RN, BS, EdD, and Professor Emeritus

Mission

The mission of the College of Nursing is to prepare nurse leaders and to advance science to meet the health needs of the people of Tennessee, the region, and the nation through education, research, clinical care and service.

Vision

To serve as the leading state and a national nursing resource to transform the nursing profession and the health of people through education, research, practice, and service.

Values

The College of Nursing's values are:

- A culture that creates, supports, and promotes innovation while honoring our traditions
- Sense of community and teamwork within the College, with our colleagues, and with our strategic partners
- A community that enhances scholarship and promotes diversity
- Professional and personal accountability
- Respectful, open, and transparent communication and collaboration
- Professional and intellectual integrity
- Shared respect for faculty and staff contributions

College of Nursing Philosophy

The philosophy of the College of Nursing is consistent with the goals and mission of UTHSC. The College philosophy focuses upon the nature of the PERSON, ENVIRONMENT, HEALTH, and NURSING. The faculty believes that the PERSON is a unique integrated being that is continuously evolving. Each person has the right to participate in making decisions that affect his/her health and to accept or refuse healthcare within the context of safety to society.

The faculty views ENVIRONMENT as all conditions influencing the life and development of the person. The health of individuals, families, and communities is affected by these conditions.

HEALTH is viewed as a dynamic state arising from a process of continuous change in the person and environment. The faculty views the promotion, maintenance, and restoration of health as a complex phenomenon involving the shared responsibility of the person, healthcare providers, and society. Faculty view nursing as stated in the second edition of Nursing's Social Policy Statement (ANA, 2003), "NURSING is the protection, promotion and optimization of health and abilities, prevention of illness and injury, alleviation of suffering through the diagnosis and treatment of human response and advocacy in the care of individuals, families, communities, and populations" (p.6). Nursing must provide leadership in influencing the organizational, social, economic, legal, and political factors within the healthcare system and society. "These and other factors affect the cost, access to, and quality of healthcare and the vitality of the nursing profession" (p.6).

Professional nursing is a science and an art. The science of nursing requires that nurses study, explore, and research nursing and related knowledge areas. From these areas nurses develop and test nursing theories for the improvement of nursing practice and healthcare. The art of nursing requires that nurses use knowledge gained from the humanities, arts, and sciences as the foundation for acceptance and appreciation of clients' values. Nursing care requires sensitivity as well as critical, logical, and analytical thinking to effect changes in clients and the healthcare system.

EDUCATION for professional nursing practice includes a sound theoretical knowledge base to support experiential learning. The faculty believes that the educational process facilitates continuing personal and professional growth. The intent of the educational programs is to focus on the learner with active participation of the student in the learning process. Education is a life-long process with the commitment of the learner to establish patterns of continued inquiry.

Biography of the Dean

Laura A. Talbot, PhD, EdD, RN, is the Dean and Ruth Neil Murray Endowed Chair in Nursing in the College of Nursing. Dr. Talbot has extensive administrative, clinical and research experience, much of it gleaned during her more than 30 years of service in the U.S. Air Force, where she rose to the rank of colonel and commanded a medical squadron. Dr. Talbot assumed her responsibilities at UTHSC in June 2012. Originally from Texas, Dr. Talbot received her undergraduate education at Incarnate Word College School of Nursing in San Antonio. She obtained graduate degrees from California State University in Los Angeles, the University of North Texas in Denton, and Texas Women's University in Denton, focusing on college teaching, studies in aging and nursing. Her postdoctoral work was performed at the Gerontology Research Center and sponsored by the National Institute of Nursing Research and National Institute on Aging, parts of the National Institutes of Health.

Administrative Structure of the College

The College of Nursing is led by the Dean, four associate deans and one assistant dean. It is organized into two departments, the Department of Advanced Practice and Doctoral Studies and the BSN/MSN Department, which are the administrative bases for educational programs. The associate deans of the departments are responsible for educational programs within the department, budget, and personnel administration, including allocation of workload for teaching, research, service, and clinical care. The Associate Dean for Advanced Practice and Doctoral Studies also administers the faculty clinical practice. The Associate Dean for Academic Affairs oversees administration of policies related to academic and student affairs and leads accreditation. The College of Nursing's faculty clinical practice is administered by the Associate Dean for Advanced Practice and Doctoral Studies. The Associate Dean for Research (search underway) leads research endeavors of the college.

Organization of the Faculty

All full-time, appointed faculty in the College of Nursing are members of the College of Nursing Faculty Organization. The president and committee members are elected by the faculty. Standing committees include: Collegiate Promotion and Tenure Committee, Curriculum Committees, Admission and Progression Committees, Executive Committee, Evaluation Committee, Awards and Honors Committee, Practice Committee, and Bylaws Committee. The Organization normally meets once every month or more often as business may dictate. It serves as an advisory group to the dean and provides faculty input on curriculum, other items of interest to the faculty and the dean as well as providing educational seminars of interest to faculty.

In addition to the full-time and part-time faculty of the College of Nursing, faculty members from other UTHSC colleges teach in the College of Nursing. The faculty selects, instructs, examines and promotes students in the college; it organizes and maintains the curriculum in consultation with and with the consent of the Dean. The list of nursing faculty including academic credentials, degrees with conferring institutions, and faculty rank is provided at the end of the nursing section of this catalog.

Nursing Alumni Association

The UTHSC College of Nursing Alumni Association represents more than 4,500 UTHSC graduates and is an integral part of the University of Tennessee National Alumni Association. With the partnership between Methodist Healthcare of Memphis and the UTHSC College of Nursing, almost 4,000 additional graduates from the Methodist School of Nursing have joined the College of Nursing Alumni to participate in the Nursing Alumni Association activities. Alumni serve on several college committees where alumni representation is appropriate and advantageous to the future of the College of Nursing.

Location and Facilities

The College of Nursing's administrative and faculty offices are located on the tenth, ninth, and fifth floors of the 920 Madison Avenue Building in Memphis, Tennessee. The General Education Building, also located on the UTHSC Memphis campus, houses the nursing simulation and skills lab and serves as the primary classroom instruction site. Additional lab and classroom space is located on the fifth floor of the 920 Madison Avenue Building. Clinical experiences for pre-licensure students occur at area hospitals and clinics. Advanced practice experiences occur in clinics and hospitals throughout the state of Tennessee as well as other states in proximity to where students reside.

Accreditation

The University of Tennessee is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools. The Master of Science in Nursing (MSN) and Doctor of Nursing Practice (DNP) degree programs in the UTHSC College of Nursing are accredited by the Commission on Collegiate Nursing Education (CCNE), One DuPont Circle, NW, Suite 530, Washington, DC 20036, (202) 887-6791. The DNP/Post BSN Nurse Anesthesia programs is also accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA), 222 S Prospect Avenue, Park Ridge, IL 60068, (847) 655-1160. The Bachelor of Science in Nursing (BSN) program is approved by the Tennessee Board of Nursing, 227 French Landing, Suite 300, Heritage Place Metro Center, Nashville, Tennessee 37243, (800) 778-4123 and will undergo accreditation review by the CCNE in Fall 2014.

Program Modification Statement

The faculty of the College of Nursing reserves the right to make changes in curriculum, policy and procedures when, in its judgment, such changes are in the best interest of students and the College of Nursing. Ordinarily, a student may expect to receive a degree by meeting the requirements of the curriculum, as specified in the catalog currently in force when they first enter the college, or in any one subsequent catalog published while they are a student. However, the College of Nursing is not obligated to fulfill this expectation, or to offer in any particular year, a course listed in the catalog.

DEGREES OFFERED

The College of Nursing offers programs that lead to the Bachelor of Science in Nursing (BSN) degree, Master of Science in Nursing (MSN) degree, and the Doctor of Nursing Practice (DNP) degree. With the exception of the Nurse Anesthesia option, the DNP Program is an online program with didactic content offered predominantly online and required practicum experiences occurring both at the university and at clinics and hospitals in the region. The Doctor of Philosophy (PhD) in Nursing Science is offered through the UTHSC College of Graduate Health Sciences. The DNP/PhD program is a dual degree program that is based both in the College of Nursing (DNP) and the College of Graduate Health Sciences (PhD).

| DEGREE | DESIGNATION | CONCENTRATION |
|------------------------------|-------------|--|
| Bachelor of Science, Nursing | BSN | Nursing |
| Master of Science, Nursing | MSN | Clinical Nurse Leader |
| Doctor of Nursing Practice | DNP | Adult Gerontology Acute Care NP Family Nurse Practitioner Family Psych/Mental Health NP <i>Forensics Nursing</i> ⁴¹ Neonatal Nurse Practitioner Nurse Anesthesia Pediatric Nurse Practitioner <i>Public Health Nursing</i> |

⁴¹ The college is not accepting new applications for the forensic nursing nor public health nursing concentrations at this time.

ACADEMIC CALENDAR 2013-2014

| Date | Activity | Class |
|--|--|---------------------------------|
| Mon, July 1, 2013 | Registration/Fee payment DEADLINE | Returning PhD Students |
| Mon, July 1, 2013 | Academic year begins | Returning PhD Students |
| Mon, July 29, - Wed, July 31 , 2013 | Orientation | CNL and BSN |
| Thurs, August 1, 2013 | Registration/Fee Payment Deadline and CLASSES open in Blackboard | PhD, DNP, CNL, BSN |
| Mon, August 5, 2013 | Orientation | New DNP Students |
| Mon, August 5 - Fri, August 9, 2013 | On Campus Week | PhD and DNP |
| Mon, August 5- Fri, August 9, 2013 | Courses Begin | PhD |
| Thurs, August 8- Fri, August 9, 2013 | Orientation and Registration | New PhD Students |
| <i>Mon, September 2, 2013</i> | <i>Labor Day Holiday (Offices Closed)</i> | <i>PhD, DNP, CNL, BSN</i> |
| Thurs, Oct 3, and Fri Oct 4, 2013 | Fall Break | PhD, DNP, CNL, BSN |
| Mon, October 7, 2013 | Progressions Meeting | PhD, DNP, CNL, BSN |
| Mon, October 14, 2013 | White Coat Ceremony | CNL |
| Fri, November 1, 2013 | Spring Registration Opens | DNP, CNL and BSN |
| <i>Thurs, Nov 28, and Fri, Nov 29, 2013</i> | <i>Thanksgiving Holiday</i> | <i>PhD, DNP, CNL, BSN</i> |
| Fri, Nov 29, 2013 | Last day of Fall Classes for Graduating Students | DNP, CNL |
| Mon, Dec 2 - Fri, Dec, 6, 2013 | On Campus Week | PhD and DNP |
| Friday, December 13, 2013 | Last Day of Fall Classes | PhD, DNP, CNL, BSN |
| Friday, December 13, 2013 | Graduation | PhD, DNP, CNL |
| <i>Mon , Dec 23, 2013- Fri, Dec 27, 2013</i> | <i>University Holiday (Offices Closed)</i> | <i>PhD, DNP, CNL, BSN</i> |
| <i>Wed, January 1, 2014</i> | <i>University Holiday (Offices Closed)</i> | <i>PhD, DNP, CNL, BSN</i> |
| Thurs, January 2, 2014 | Registration/Fee Payment Deadline and CLASSES open in Blackboard | PhD, DNP, CNL, BSN |
| Mon, January 6, 2014 | Courses Begin | PhD, DNP, CNL, BSN |
| <i>Mon, January 20, 2014</i> | <i>Martin Luther King Holiday (Offices Closed)</i> | <i>PhD, DNP, CNL, BSN</i> |
| Mon ,Mar 10, 2014 – Fri, Mar 15, 2014 | Spring Break | PhD, DNP, CNL, BSN |
| <i>Fri, Mar 28, 2014</i> | <i>Spring Holiday (Offices Closed)</i> | <i>PhD, DNP, CNL, BSN</i> |
| Mon, Apr 28, 2014 – Fri, May 2, 2014 | On Campus Week | PhD and DNP |
| Fri, May 16, 2014 | Classes End | Graduating DNP and CNL Students |
| Fri, May 23, 2014 | Classes End | PhD, DNP, CNL, BSN |
| <i>Mon, May 26, 2014</i> | <i>Memorial Day (Offices Closed)</i> | <i>PhD, DNP, CNL, BSN</i> |
| Fri, May 30, 2014 | Graduation | PhD, DNP, CNL, BSN |

ADMISSION AND SELECTION

College Admission Policy

The College of Nursing conducts, through its programmatic admissions committees, appropriate and timely review of student applications and supporting credentials. The resulting decisions and recommendations reflect high academic standards and observance of applicable legal statutes, as well as policies of the University of Tennessee System, the University of Tennessee Health Science Center, the College of Nursing Health Sciences, and the individual programs. Admissions procedures, processes and recommendations afford equal educational opportunity to all applicants without regard to race, color, national origin, sex, religion, age, handicap or veteran status.

Applications to the BSN, MSN-CNL and DNP Programs (excluding Nurse Anesthesia Entry) are accepted through Nursing CAS, a national nursing centralized application service endorsed by the American Association of Colleges of Nursing (AACN). Interested applicants can access the Nursing CAS application site at: <http://nursingcas.org/>. The Nursing CAS requires applicants to enter all courses taken for credit, including course name, number, and grade. Applications to the DNP Nurse Anesthesia entry program are made directly through the College of Nursing. Application instructions for the Nurse Anesthesia option can be accessed through the College of Nursing website:

http://www.uthsc.edu/nursing/future%20students/dnp_anesthesia_req.php.

Only individuals whose application files are complete and have paid the application fee will be considered by the College of Nursing Admissions Committee. Preference is given to residents of Tennessee, but out-of-state applicants are also given consideration. The following table provides an overview of admission criteria for each of the educational programs. Additional criteria for specific DNP options may apply. Details of program admission criteria may be found in the program sections of this catalog and may be accessed through the College of Nursing's website at: <http://www.uthsc.edu/nursing/>.

Table 1. Admission Criteria

| | BSN Program | MSN Program | DNP Program |
|---|--|--|---|
| Minimum Cumulative Grade Point Average | 3.0 non-nurses/ 2.5 for registered nurses | 3.0 non-nurses 2.5 for registered nurses | 3.0 (all college work 3.2 (most recently completed degree) |
| Standardized Test | Above national median | Above national median | GRE ≥ 1000 (before 2012) ≥ 300 (since 2012) Only for Nurse Anesthesia option |
| Essay | Required | Required | Required |
| Professional References | Required | Required | Required |
| Interview | None | Required | Required |
| Unencumbered nursing license | For applicants who are registered nurses only | For applicants who are registered nurses only | Required |

The College of Nursing admits students to the educational programs once per year. Application deadlines are posted on the College of Nursing website:

<http://www.uthsc.edu/nursing/future%20students/admissions.php>.

Previous Enrollment in another Nursing Program

Applicants to a College of Nursing program who have attended, but not completed another nursing program, must provide a letter from the Dean/Director of the nursing program they previously attended. This letter must include a statement indicating that the student was in good academic standing when the student left the program and that the student is eligible to return to that program. *Individuals dismissed from other nursing programs are not eligible for admission to UTHSC College of Nursing.*

In-State Residency Determination and Academic Common Market

Guidelines used to classify applicants as in-state or out-of-state for purposes of admission and tuition are available online via <http://www.uthsc.edu/admissions/residency.php>. Additional questions regarding residency should be addressed to the UTHSC Assistant Director of Enrollment Services, Suite 525, 910 Madison Avenue, Memphis, TN 38163, (901) 448-5560.

The Academic Common Market is a tuition-savings program for college students in the 16 Southern Region Educational Board states who want to pursue degrees that are not offered by their in-state institutions. Students can enroll in out-of-state institutions that offer their degree program and pay the institution's in-state tuition rates. Each state and university decides whether to participate in the Academic Common Market and determines which educational programs will be eligible the Academic Common Market. The UTHSC participates in the Academic Common Market for the MSN and DNP Programs. Access information about the Academic Common Market at: http://www.sreb.org/page/1304/academic_common_market.html.

Technical and Performance Standards

The Admissions Committee maintains that certain minimal technical requirements and performance standards. Candidates for practice in entry level degree programs and graduate programs must have the following essential skills: gross and fine motor; sensory/observational; intellectual; integrative; computer literacy; communication; social/behavioral; and professionalism. Specific technical and performance standards for each program are listed under the specific program in this catalog.

Background Check and Drug Screening

Students must complete a successful criminal background check and drug screening prior to matriculation. Students should disclose any previous felony or misdemeanor conviction to the program director prior to program enrollment and report any new convictions that occur while a student in the program. Background checks and drug screens may be repeated during the student's program of study for cause, random screenings, or clinical agency requirements. Clinical sites, licensing boards, and certification committees may require additional criminal background checks along with drug screenings and fingerprinting. Students are responsible for these costs. Information discovered in background searches may delay or prevent enrollment, clinical education opportunities, graduation, or licensure.

Immunizations and Medical Clearance

Prior to matriculation, students must receive required immunizations and medical clearance to meet technical and performance standards. Clinical agencies may require students receive additional immunizations or screenings during the program. The cost for these immunizations or screenings is the responsibility of the student.

Licenses and Certifications

Students must provide evidence of current cardiopulmonary resuscitation (CPR) certification according to standards of the American Heart Association or the American Red Cross. Additionally, registered nurses accepted as students in any of the educational programs must have an unencumbered nursing license with authority to practice in TN and maintain an unencumber registered nurse license for the duration of their program.

Student Health and Professional Liability Insurance

All nursing students are required to have healthcare and medical insurance while enrolled in the College. Clinical agencies that provide clinical laboratories for the College of Nursing students require professional liability insurance. Therefore, College of Nursing students will be automatically be assessed a yearly fee to cover liability insurance. Students who are practicing nurses and have their own liability insurance are still required to purchase student professional liability insurance through the University.

Student Status

Students are expected to remain continuously enrolled in their program. The BSN and MSN program offers a full-time and part-time option for licensed registered nurses. There is only a full-time option for non-nurses who enroll in the BSN or MSN programs. The DNP Program has full-time plans of study for all options. Select options have structured part-time plans of study available. Consult with the program director and DNP option coordinators to determine if part-time study is a possibility.

Undergraduate students who are enrolled in 12 hours or more are classified as full-time. Student who are enrolled in less than 12 hours are classified as part time. Graduate students who are enrolled in 9 hours or more are classified as full-time. Students who are enrolled in less than 9 hours are classified as part time.

TUITION, FEES, AND EXPENSES

Information regarding tuition and fees for the individual programs in the College of Nursing may be found at http://www.uthsc.edu/finance/bursar/colleges_fee_information.php with additional information regarding estimated cost of attendance at <http://www.uthsc.edu/finaid/coa.php>. In addition to regular fees, students may expect other expenditures including but not limited to fees for simulation or lab courses; for continuation of licensure to practice nursing; for membership in professional organizations; for equipment such as a computer and software, tape recorders, name tags, laboratory coats, stethoscope and diagnostic kit; technology and testing fees; student health and screening fees; for travel; and licensing and certification.

Required Textbooks

Students may access the required books for all the courses in their professional program by going to the following link to the Bookstore on the UTHSC website: <http://www.Uthsc.bncollege.com>. A customized textbook list can be generated for each student by entering the following information on the website page: program/department, term and course numbers.

Computer and Tablet Requirements and Specifications

All College of Nursing students are required to have a **laptop** computer, certain software, and Internet access. Students' computers must have the Windows operating system. This requirement mirrors the structure set forth by the university's Computing Center and also ensures that students' computers will be compatible with all the software applications they will be asked to use during their programs of study.

Students who choose to have a Macintosh computer will be responsible for making sure their non-Windows computer can perform all required tasks and run all necessary applications specified by course faculty. Also, students in the BSN and MSN programs are required to purchase a hand-held tablet. A list of minimum computer hardware and software requirements, and tablet specifications, is available on the College of Nursing website: http://www.uthsc.edu/nursing/future%20students/dnp_anesthesia_req.php. Costs of computer, hand-held tablet and software vary by program. Estimated costs range from \$1000 to \$2000. Students may use previously purchased equipment that met specifications.

Student Health and Professional Liability Insurance

All nursing students are required to have healthcare and medical insurance while enrolled in the College. All students in the College are also required to purchase professional liability insurance through the University at a nominal cost payable at registration time.

Criminal Background Checks

All students are required to have a background check and drug screening prior to enrolling in the nursing programs. The cost of the initial criminal background check and drug screening ranges from \$100 to \$130 dollars. Students should be aware that additional criminal background checks along with drug screens and fingerprinting may be required by clinical sites, certification committees and state licensure boards. Students are responsible for these costs. Information discovered in criminal background searches may delay or prevent enrollment, clinical education opportunities, graduation and entry into the profession. Failure to comply may prohibit students from entering programs, completing clinical assignments or graduating from the program. If a student needs further information about criminal background checks, the student should contact their program director.

Clinical Software Fee

All students are assessed a clinical software fee. Either Typhon and Medatrx systems are used for tracking de-identified clinical encounters in order to document information such as clinical contact hours, populations cared for, types of diagnoses, medications managed, and procedures completed. Cost for the clinical software program is approximately \$45 per term.

Uniforms and Equipment

Students purchase scrubs or uniforms, as well as a lab coat with UTHSC College of Nursing patch, to wear in clinical settings and in the laboratory. Costs are dependent upon the number of uniforms purchased and the vendor. Students should anticipate paying between \$130 and \$200. These items can be worn for the duration of the nursing program. Equipment such as stethoscopes, diagnostic kits, and supplies are determined based upon program requirements. Equipment costs for the duration of the program may range from \$100 to \$500, and estimated supply costs for laboratory and clinical experiences are \$100 per term.

Testing Costs

Students pay a yearly university fee for computerized testing of approximately \$50. This fee covers costs associated with faculty generated computer exams to assess student learning in courses. Additionally, students enrolled in the BSN and MSN Programs are required to complete *RN Content Mastery Exams* from Assessment Technologies Institute in select courses. They also complete a comprehensive Assessment Technology Institute exam in preparation for the nursing licensing examination. Standardized testing fees for students in the BSN and MSN program are approximately \$325 for the duration of their program. Students in the DNP Family Nurse Practitioner option, as well as the dual options, complete a standardized, comprehensive exam in preparation for the Family Nurse Practitioner certification exam. The cost for this examination is approximately \$100.

Licensure and Certification Preparation Courses

Students in the BSN and MSN programs may take a review course to prepare them for the nursing licensure exam toward the end of their nursing program. Costs associated with the review course are approximately \$150. Students pay registered nurse licensure exam (NCLEX) application fee, Board of Nursing fee, and state regulatory fees directly to the licensure testing agency and the state government. These fees are \$300. Costs associated with certification exams for advanced practice nurse specialties and clinical nurse leader vary and are subject to change by the certifying bodies.

SCHOLARSHIPS AND FUNDING

Students in the College of Nursing are may be eligible for loans and scholarship awards from various sources. Individuals in need of financial assistance must complete the Free Application for Federal Student Aid (FAFSA) in order to be considered for loans, scholarships, or traineeships available through the university and College of Nursing. The FAFSA can be accessed at <http://www.uthsc.edu/finaid/>. Students are encouraged to explore external sources of financial assistance through their employers, service clubs, and professional organizations.

Financial Aid

Students may access information regarding Financial Aid, including information on applying for financial aid, available scholarships, financial literacy counseling, and general student loan information at <http://www.uthsc.edu/finaid/>. Students may also contact the UTHSC Financial Aid Office at (901) 448-5568.

Loans and Scholarships

The College of Nursing may receive traineeships for students through the Professional Nurses Traineeship Program. A limited number of scholarships are sponsored by philanthropic organizations and awarded by the College of Nursing. Application for College of Nursing administered scholarships and traineeships is made by completing a Free Application for Federal Student Aid (FAFSA). A FAFSA may be accessed online via www.uthsc.edu/finaid. Scholarships and Traineeships are awarded only to students who have accepted offers of enrollment from the UTHSC College of Nursing.

The **Absher Memorial Scholarship** was established in memory of Reba Goins Absher, a graduate of the Physician and Surgery Hospital Nursing School in Chattanooga. This fund provides financial aid to students preparing for a career in professional nursing or as an advanced practice nurse at the University of Tennessee.

The **Marie E. Buckley Scholarship** was established in 1997 by the UT Memphis Student Nurse Class of 1962 to honor Marie Buckley, a Goodman Professor and Assistant Dean for Students at UTHSC College of Nursing. This fund provides support for students demonstrating scholastic ability and dedication to nursing as a career and profession.

The **Elizabeth Club Scholarship**, established in 1968 by the Women's Club of Memphis, provides scholarships for two or more students enrolled in the College of Nursing who demonstrate academic ability and financial need, with preference given to citizens of Tennessee.

The **Andrew D. Holt Scholars Program** memorializes UT's former president Dr. Andy Holt for his efforts to build the University's scholarship program during his 20-year association with the institution. The most prestigious scholarship awarded by the UT Alumni Association supports students with two or more years remaining in his/her curriculum and who have demonstrated academic merit and leadership skills. This two-year scholarship is awarded annually to one student in the amount of \$2,500 per year for a total of \$5,000.

The **University of Tennessee Alumni Association (UTAA) Legacy Scholarship**, created in 2013 by the UTAA, supports students whose parents or grandparents received a degree from the University of Tennessee. Matching funds from the UTHSC Chancellor allows each College to award a \$1,000 Legacy Scholarship each year. The UTAA Legacy Scholarship for the College of Nursing is awarded annually to one first year legacy student with an admission GPA ≥ 3.0 OR 3.0 or greater.

The **Dorothy McCarley Martin Scholarship** was established by Mr. Dean Martin, of Franklin, TN, in memory of his wife Dorothy McCarley Martin, 1956 graduate of the UTHSC College of Nursing. This scholarship provides support for deserving nursing students based on academic and financial need, with preference to students in their last year of studies.

The **Brenda Mills Scholarship** was established in 2006 by faculty and friends in memory of Brenda Mills, educator at the College of Nursing and flight nurse in the U. S. Air Force Air National Guard. This scholarship provides support for students demonstrating scholastic ability and financial need, with preference given to the previous year's recipient.

The **Roane County Scholarship** was established in 1959 by the Roane County Medical Society for the purpose of providing medical and nursing scholarships to residents of Roane & Anderson counties based on financial need and scholastic merit.

The **Ruby L. Stephenson Scholarship** was established in 1955 to support students based scholastic ability and dedication to nursing as a career and profession.

The **Esther Jean Trentham Scholarship** supports nursing students in good academic standing with financial need.

The **Grace Spice Wallace Scholarship** was established in 1996 by friends, students, and colleagues. Ms. Wallace served as the Assistant Director of Nursing Education and Assistant to the Dean and Associate Professor and Coordinator of Basic Sciences in the UT School of Nursing from 1949-1976. This scholarship provides support for students based on scholastic ability and dedication to nursing as a career and profession.

The **Frances Wright Washburn Scholarship**, established in 1961 by her sister, Mrs. Vivian Chaffin, supports nursing students in good academic standing with financial need.

The **Virginia C. Wilson Scholarship** provides support for nursing education. Mrs. Wilson was a 1954 graduate of the University of Tennessee, College of Nursing. Her husband, Dr. Creighton Wilson, graduate of the UTHSC College of Medicine, established this endowment in her honor, knowing that she would be proud to assist future nursing students in their education. This scholarship provides support for students demonstrating academic scholastic ability and financial need, with preference given to previous year's recipient.

The **Faculty Minority Scholarship** was established by faculty of the UTSHC College of Nursing in 1988. This scholarship provides support for minority students demonstrating scholastic ability, financial need, and dedication to the health sciences as a career and profession.

The **Chancellor's Diversity Scholarship** provides support for ethnically diverse students demonstrating academic ability and financial need, with preference given to residents of Tennessee

Sigma Theta Tau International Scholarship. The Beta Theta Chapter-At-Large awards scholarships to qualified nurses or nursing students. These awards recognize outstanding scholarship that will advance knowledge in the area of nursing science and practice. Applications should be made to Beta Theta Chapter-At-Large.

Health Resources and Services Administration Loan Repayment Programs

Health Resources and Services Administration (HRSA) offers loan repayment programs for nurses working in designated Health Professional Shortage Areas. Primary care nurse practitioners, certified nurse midwives and psychiatric nurse specialists are eligible to apply to the *National Health Service Corps Loan Repayment Program*. Registered nurses, including nurse practitioners are eligible to apply to the *NURSE Corps Loan Repayment Program*.

Traineeships

Professional Nurse Traineeships. Professional Nurse Traineeships provide some financial assistance in the payment of tuition and fees to eligible full-time nursing students in a practice DNP option. Preference is given to individuals who are residents of health professional shortage areas as designated under section 332 of the Public Health Service Act.

Primary Care Education Traineeships. The Memphis Veterans Affairs Medical Center provides Primary Care Education Traineeships for medical residents and associated health trainees. Known as the PRIME program, funds are provided to foster the development of primary and managed care training and to foster education in team care in the primary and managed care setting. A call for applications is made during the summer/fall term of each year.

Access to Emergency Loans

Emergency loans are available for students through the College of Nursing's Student Affairs Office. The emergency loan application is accessible online at: http://www.uthsc.edu/financeoper/cashier/loan_information.html. Student Emergency Loans are based on need and availability of funds. Students may borrow up to \$600 if the student has elected to take out federal financial aid, and has not already borrowed the maximum amount allowed per year based on the student's pre-determined cost of attendance. Emergency loans must be repaid within 60 days after receipt with repayment or a late fee of \$30.00 will be charged. The interest rate on emergency loans is set by the federal loan program. You cannot have more than one outstanding emergency loan. All previous emergency loans must be repaid before another one can be issued. The University is not obligated to send reminder notices before the payment is due. New students are not eligible for an emergency loan before the commencement of classes. Graduating students are not eligible for an emergency loan 90 days prior to graduation.

POLICIES

Accommodations

Students desiring accommodations must provide current and relevant documentation of physical, learning, psychological, or other disabilities, if applicable. Documentation guidelines are available in the Student Academic Support Services (SASS) Office, GEB, room BB9. Determination of eligibility and recommendations of accommodations must be made by Student Academic Support Services <http://www.uthsc.edu/sass/>. Students should call and schedule an appointment with Student Academic Support Services to determine accommodation eligibility once they are accepted into the program. Students are encouraged to notify and meet with the Program Director once the evaluation is completed.

Attendance

The educational programs at UTHSC have been developed by the faculty and staff of these colleges to provide students with the information and experiences necessary to become practicing professionals. All students are expected to attend the various educational opportunities provided for them by the college or school in which they are enrolled. Attendance is required at educational experiences as laboratories and related instruction, clinical activities, and small group conferences. In the College of Nursing, attendance is mandatory for all laboratory and clinical experiences. Attendance is required of all students at scheduled "on-campus" sessions. Additional details of course attendance requirements are in the courses syllabus and will be provided to students by course faculty. Class attendance is documented for all students.

Grading System

The faculty evaluates the academic achievement, acquisition of skills, and attitudes of nursing students and uses the marks of A, B, C, D, F, WP, WF, and I, in all official reports. In certain instances, some courses may be graded on a PASS/FAIL basis. The following grade ranges are utilized in the College of Nursing:

- 92 - 100 = A
- 83 - 91 = B
- 75 - 82 = C
- 70 - 74 = D
- 0 - 69 = F

The letters “**WP**” or “**WF**” are recorded to indicate pass or failure in those instances in which a student withdraws from a course before completion, and is either passing or failing, respectively. The letter grade of “**W**” will be recorded when a student withdraws from a course before there has been evaluation of the student to determine whether he/she is passing or failing. If withdrawal occurs before the midpoint of a course, the grade for the dropped course is recorded as a ‘**W**’ on the official transcript. If withdrawal occurs after the midpoint, but before the course is 70% completed, the grade for the dropped course is recorded as either ‘**WP**’ (withdrawn passing) or ‘**WF**’ (withdrawn failing) depending on the student’s grade point average in the course at the time of withdrawal. Once a course is $\geq 70\%$ completed, a withdrawal is not permitted except under extenuating circumstances. Any student who fails to complete the course will receive zero(s) for any uncompleted assignments and tests, and the final course grade will incorporate those zero(s) into the grade calculation.

The designation of “**I**” (incomplete) will be used when a student is unable to complete the course at the regular time because of a reason acceptable to the course coordinator. In such cases, arrangements will be made by the coordinator for the student to complete the course requirements, and the grade of “**I**” will then be replaced by whatever grade the course coordinator considers the student to have earned. It is the responsibility of the student to work with the course coordinator in determining under what circumstances the “**I**” grade can be changed, however, the student must remove the “**I**” by the end of the following term. Failure to remove the “**I**” within the allowed time will result in a grade of “**F**” being recorded as the permanent grade.

Dropping/Adding a Course

Students who desire to add or drop a course should consult with their academic advisor and the faculty member teaching the course. When students drop a course, faculty record the withdrawal from the course and the last date of student attendance in Banner. Faculty notify the DNP Program Director, Associate Dean for Academic Affairs, and the student’s advisor regarding the course change. The advisor and student develop a new plan of study, sign the plan of study, and forward it to the DNP Coordinator for inclusion in the student’s file. Courses in the College of Nursing are typically offered once per year. Individuals who withdraw from a course may not be able to progress to the next set of courses, resulting in a delay in progression of 6 to 12 months. Space is limited in clinical courses; space constraints may limit the ability of the student to re-enroll in a clinical course and affect progression in the program.

Leave of absences are granted in extenuating circumstances. The student should meet with the Associate Dean of Academic Affairs, their advisor, and the option coordinator to determine whether it is feasible for the student to return to the program. Students who request a leave of absence for 6 months or longer may need to audit or re-take courses to provide foundational knowledge.

In order to comply with federal guidelines that require timely reporting of changes in student status for any student receiving federal financial aid UTHSC requires that colleges report all student withdrawals to the Office of the Registrar as soon as they become aware of the change in student status, whether the change relates to a student-requested withdrawal or a withdrawal due to non-attendance by the student. Students should be aware that depending on the timing and nature of the requested change, any resulting change in total enrolled credit hours could affect enrollment status, eligibility for tuition refunds or financial aid, student loan repayments, and subsequent grades appearing on the student’s official transcript.

The duration of courses in the College of Nursing ranges from 10-20 weeks during the Fall and Spring terms, and courses last 8 weeks during the Summer term. Dates to withdrawal and receive a “**W**” (see designation between a ‘**W**’ and ‘**WP/WF**’ above) and last dates to withdrawal from courses are listed on the College of Nursing Academic Calendar:

<http://www.uthsc.edu/nursing/current%20students/academic%20calendar/>

Auditing a Course

Students may audit didactic and laboratory courses with the permission of the program director and course faculty member. Auditing of clinical experiences is **not** allowed. The program director, faculty member and student discuss assignments to be completed by the student as part of the auditing process. With permission of the faculty member and program director, the student may take unit exams, standardized tests, complete simulations, and other assignments. Individuals who are required to audit a course may be required to achieve predetermined scores on unit exams, standardized tests, or assignments in order to progress to the next series of courses. The student is responsible for any costs associated with books, supplies, and other assignments.

Leave of Absence, Withdrawal, and Readmission

Students are required to register for coursework each term once they have been admitted to the program. Requests for a leave of absence should be based upon compelling nonacademic reasons. Short term leave, less than one week in duration, for illness, accident, bereavement, or other personal matters, may be granted by the Associate Dean for Academic Affairs upon recommendation of course faculty and program director. A plan to remediate learning activities must be agreed upon in writing (official UTHSC email is acceptable) by the program director and student. An extended leave of absences may be granted for up to a 6 month period of time when the college recommended/required a student leave, or the student requests leave due to medical events or conditions, family leave, or military service. In certain circumstances, such as in cases in which a student is required to repeat an academic year, the actual leave period may be greater than 6 months. The student is considered to be “withdrawn” from the university during an extended leave of absence. An extended leave of absence requires approval of the Associate Dean for Academic Affairs. Requests for a leave of absence may be denied, requiring the student to seek readmission.

Return after an extended leave requires approval of the program director and Associate Dean for Academic Affairs; and for absences longer than 6 months, the student may be required to reapply for admission. Such admission is not granted automatically and is dependent on the student’s academic and disciplinary records and space availability. Special considerations will be given to veterans requesting return after completing military service. Students who withdraw from classes will be considered withdrawn from the university.

A “Change of Student Status” form must be completed when a student is dismissed, secures an approved leave of absence, or officially withdrawn from the program. When a leave of absence is granted, the form must be completed to assure appropriate administrative offices are notified of the leave of absence or withdrawal of the student. The student contacts the college’s Office of Academic Affairs and discusses the reason for the withdrawal request. The student completes their portion of the “Change of Student Status Form”. The Academic Affairs Coordinator notifies the Registrar’s Office of the student withdrawal. The Associate Dean for Academic Affairs completes the Change of Student Status Form for submission to the Registrar, including the reason for withdrawal or dismissal, date student last attended the course(s), effective date of withdrawal from the program, and the possibility of student readmission. If the student anticipates returning to the program, the Associate Dean for Academic Affairs records an anticipated return date, whether reapplication is required, and request for student to retain their UT identification and student number, access to Blackboard and email as appropriate. The last date of attendance in courses is recorded by faculty and grades (W, WF, or WP) are assigned based on the student’s academic performance and amount of the course completed. The Academic Affairs Coordinator submits the signed forms to the Registrar for processing. In the event of a dismissal, a copy of the dismissal letter is provided to the Registrar.

Students who withdraw must discharge university obligations, such as payment of tuition and fees, return of borrowed equipment, books, and other materials. Consultation with a financial aid counselor is required as part of the withdrawal process.

Testing Policy

In accordance with College of Nursing test policy, students in the BSN and MSN programs must have an average of 75% on all tests in order to successfully complete the course. The test grade average is a weighted grade. Papers, projects, learning modules, etc. may not be used to pass a course. The weighted test grade average will be obtained first and then other grades added, provided the student has at least a 75% test average.

The BSN and MSN Programs have adopted a **no make-up test policy**. Students are expected to take tests as scheduled. Any student who will be absent from an examination must notify faculty as soon as possible. There will be no make-up exam. Instead, the weight of the first missed test will be added to the final exam.

Standardized Tests: Assessment Technologies Institute (ATI) Testing

Students enrolled in select courses in the BSN and MSN Programs are required to complete *RN Content Mastery Exams* from Assessment Technologies Institute (ATI). Results of the ATI exams are used to provide feedback to students and educators to predict competency in specific content areas, predict success on the RN licensure exam, and to guide focused review. Students scoring below a Level 2 are required to meet with course faculty and their advisor to develop a remediation plan. Students complete a comprehensive ATI exam in preparation for the nursing licensing examination.

Student Identification and Dress Code

All students are required to wear the UT identification badges that are made during registration. Such cards are to be worn in a visible fashion and must be presented to UTHSC police officers, administration, or faculty upon request. If a student's identification badge is lost or misplaced, a new one must be acquired from the Campus Police Office for a fee. Students are expected to adhere to the dress code of the program in which they are enrolled. Dress requirements are explained during each program's orientation.

Transfer of Credits

Transfer hours will be considered on an individual basis. After admission, students may request transfer of credits to UTHSC by contacting the College of Nursing Office of Academic Affairs. Transfer credits toward a bachelor's degree are granted only for courses in which a grade of "C" or better was earned. Only graduate courses completed with a grade of "B" or better and accepted by the student's major department in the College of Nursing will be considered for transfer credit. As a rule, 9 credit hours may be accepted for transfer into educational programs in the College of Nursing. Grades earned in courses accepted for transfer credit are not included in the student's UTHSC grade point average calculation.

COMMUNICATION

The official method of communication between students and their respective departments, programs, and the dean's office is through the UTHSC email system. Students must check their email at least once each day to avoid missing vital information.

Access to Information and Online Instruction

Courses that are taught online or via a hybrid format provide course instruction through a Blackboard Platform managed by UTHSC. To ensure privacy, students must use their unique login and id to access their email accounts and the BlackBoard site. Student's personal information is not shared with anyone outside of the college unless specified by the student in accordance with all FERPA guidelines. Students can only access courses in which they are enrolled. Within the Blackboard course site, students access the course syllabus, link to campus resources, access course assignments including readings, recorded lectures, videostreaming, tests and assessments, grades and other classroom materials. Students participate in discussion boards and chats through Blackboard. Students submit assignments and email faculty through the Blackboard system. Faculty may also interact with students via web-conferencing using Adobe Connect, video chat, and telephone conferences.

FORMAL COMPLAINTS

A formal complaint concerning the College of Nursing is a written student complaint regarding matters not otherwise covered under UTHSC published Student Policies and Guidelines in university documents such as the UTHSC *CenterScope* and/or statements from the Office of Equity and Diversity. Thus, the purpose of a formal complaint is to provide a defined mechanism for resolution of a student problem that is not otherwise addressed in stated college or university policies and procedures.

The process for filing a formal complaint is as follows. Student concerns or questions are first directed to the appropriate faculty member. If the issue remains unresolved, the Option Coordinator, the Program Director, the Associate Dean for Academic Affairs, and the college Dean are consulted in progressive fashion. The student may file an appeal for unresolved formal complaints regarding academic matters by following the Appeal Process published in the *CenterScope*. A formal complaint must be written and must include the following: 1) complainant's name, title, and phone number; 2) detailed description of the complaint, including date and circumstances, if applicable; and 3) names of all persons involved in the complaint.

Formal complaints concerning the CON are sent to the Dean of the CON. After a complaint is filed, the Dean of the CON reviews the complaint and charts a course of action. The complainant may or may not be asked to appear in person to discuss the matter further but will be informed in writing of subsequent actions taken by the Dean in regards to the matter. The Dean will provide a copy of the complaint submitted by the student to any individuals named in a formal complaint.

PROFESSIONALISM

It is the expectation of all students enrolled at the UTHSC to maintain the highest ethical and professional standards of the various disciplines of the health professions. Failure to do so may subject a student to suspension or other appropriate remedial action by the University as outlined in the *CenterScope*, Maintenance of Ethical and Professional Standards of the Health Professions. (<https://www.uthsc.edu/centerscope/>).

PROGRESS, PROMOTION, AND GRADUATION

Satisfactory Academic Progress

Students must achieve satisfactory academic progress in order to receive federal financial aid. The Office of Financial Aid's satisfactory academic progress standards mirror the academic progress policies of each individual college. A student who is found to not be making academic progress by their college is not eligible for federal financial aid. This rule may also apply to state, institutional, and private funds. For more information refer to *CenterScope*, Satisfactory Academic Progress: (<https://www.uthsc.edu/centerscope/>).

Progression Review

The following guidelines pertain to full time as well as part time students. Promotion is the process by which a student progresses through an academic program and graduates. Promotion and graduation require positive action by the Dean based upon recommendations of the Progressions Committee. The Progressions Committee can act any time a student is deemed to be making inadequate progress toward degree objectives and/or is demonstrating unacceptable performance in the key areas of personal and professional behavior. Committee recommendations regarding a particular student are based upon input by each faculty member or course director who has teaching responsibility for that student during a given instructional period.

1. Student Performance

- a. (1) **For all BSN and MSN programs:** Students must attain a grade point average of 2.0 in a given term to progress to the subsequent term or to graduate. Any student who earns a grade of "D" (indicates marginal progress), "F" (failing), or "I" (incomplete) is reviewed in depth by the appropriate committee.

- (2) **For the DNP program:** Students must maintain a cumulative grade point average of 2.5 to progress to the subsequent term or to graduate. Students are expected to complete all courses with a grade of "B" or higher. Students earning a grade of "D" or "F" are dismissed from the program. Grades in courses earned at another university will not be computed in the cumulative GPA.
- (3) **For all programs:** The grade point average is calculated based on required courses completed at the UTHSC. Grades earned in courses that are repeated are calculated into the grade point average. Courses that are transferred into the program are not calculated in the UTHSC grade point average.
- b. A student must demonstrate satisfactory behavior in personal and professional areas deemed by faculty as being necessary for academic success and competency in clinical practice. Such areas may include ability to establish rapport with clients, ability to work effectively with members of the healthcare team, dependability, judgment, integrity, initiative, and interest.
- c. Students must complete required clinical hour and meet clinical outcomes for courses to progress in the program. If a student changes their state of residency, the College of Nursing may not be able to arrange appropriate clinical experiences. Students may be delayed in progression, need to take a leave of absence or withdrawal from the program if clinical experiences cannot be arranged.
- d. Students must meet the College and program technical and performance standards to continue in the various curricula and graduate. Copies of these standards are provided to students by their respective programs and are included in this catalog.
- e. Registered nurses must maintain an unencumbered Tennessee RN license or have unencumbered authority to practice as an RN via the multi-state privilege for the duration of the program.

2. Recommended actions:

Progress and Promotion Committees may recommend any of the following actions to the Dean:

- a. **Promotion:** Promotion of the student to the subsequent term or to graduation.
- b. **Academic Probation**
 - i. *BSN and MSN students* - Academic probation may result from a student's earning a cumulative grade point average of less than 2.0 during the term, from earning a grade of "D" in any course, or from failure to meet stated objectives associated with professional behavior or technical and performance standards. Committee recommendations must include delineation of specific conditions that must be met for removal of the student from academic probation, and the time by which such conditions must be met.
 - ii. *DNP students* – Academic probation may result from a student earning a cumulative grade point average that falls below 2.5 or by failing to meet expected levels of clinical competencies or professional behaviors.
- c. **Dismissal**

Dismissal may result from any of the following:

 - i. *BSN and MSN students* - A student earning a grade of "F" in any course; earning a grade of "D" in two or more courses;
 - ii. *DNP students* – A student earning a grade of "D" or "F" in any course;
 - iii. A student failing to meet the minimum grade point average requirement as stipulated by the specific degree program;
 - iv. A student failing to meet the requirements of a course(s) as stipulated in the course syllabus;
 - v. A student demonstrating serious deficiencies in personal or professional behavior;
 - vi. A student failing to meet technical and performance standards;
 - vii. A student exhibiting unethical or illegal conduct. All students are expected to adhere to the principles of the American Nurses Association Code for Nurses with Interpretative Statements and to the Honor Code for the campus of UTHSC.
 - viii. A student failing to meet stipulated conditions for removal of academic probation within the designated time period.

d. Repeating Curriculum

Recommendations that a student repeat all or part of the curriculum may be made if either of the following conditions are present:

- i. *Nonacademic circumstances*: the presence of specific nonacademic circumstance(s) judged by the committee as having an adverse effect on the student's academic performance and there is committee judgment that resolution of the identified circumstance will subsequently result in satisfactory performance by the student;
- ii. *Academic performance or leave of absence resulting in a delay in progression*: Students may be required to repeat or audit courses previously taken when in the committee's judgment the time between course completion and re-entry into program could jeopardize student progression or success on licensing or certification exams.

Notification of Student Dismissal

Any student who is dismissed from a program or placed on academic probation is notified by email from the Associate Dean for Academic Affairs. A student placed on academic probation is given a written statement of conditions that must be met for removal of academic probation, and the time period allowed.

Appeal Process

A student has the right to appeal a progression recommendation or dismissal. Such a request must be submitted in writing by official university email to the Associate Dean for Academic Affairs and received within five (5) calendar days of receipt of notification of the intended action. Appeal hearing dates are designated on the Academic Calendar and are included in the notification to the student of the failure to progress. The student will meet with the Progressions Committee and may bring any person(s), excluding legal counsel, whom the student believes can contribute to the presentation. After hearing all persons who appear on behalf of the student or in support of the action taken by the progress and promotion committee, the committee sends a recommendation for resolution of the appeal along with supporting documentation to the Dean within 24 hours. The Associate Dean of Academic Affairs will notify the student of the Progression Committee's recommendation within 24 hours via official university email.

The student may appeal the decision of the Progressions Committee and file a written appeal with the Dean of the College of Nursing (Dr. Laura Talbot) within 5 calendar days of the hearing. The Dean of the College of Nursing will consider the student's appeal and make a final recommendation within 5 working days. The decision of the dean is final in such cases, however, in the case where a student is dismissed, the student has the right to appeal to the Chancellor for readmission to the program if the student believes there were inherent flaws or biases in the process leading up to dismissal. During the appeal process, a student may continue to participate in classroom activities but will be suspended from clinical activities.

Readmission Following Dismissal or Unapproved Program Withdrawal

Students who withdraw from the program without permission to return or who are dismissed from the College for non-academic reasons may request readmission. Requests for readmission must be in writing and should be addressed to the Dean of the College of Nursing. Request for re-admission is acted upon by the Dean in consultation with appropriate administrators and faculty committees. If readmission is granted, the placement in the program and remaining requirements will be specified by the Associate Dean for Academic Affairs and the Program Director.

Students who are dismissed from the program for academic reasons are generally not considered competitive. Students who chose to reapply to the program following an academic dismissal should provide documentation of extenuating circumstances that contributed to the inability to progress in the program, resolution of the extenuating circumstances, and their plan to be successful academically if readmitted to the program.

Graduation Requirements

To be recommended for a degree in any of the programs offered by the College of Nursing, a candidate must comply with the following conditions:

1. The candidate must complete all required courses of the prescribed curriculum with a minimum grade point average stipulated by the specific degree program (BSN and MSN Programs, grade point average of 2.0 or above; DNP Program, grade point average of 2.5 or above) and in the case of clinical education or practice demonstrate a level of proficiency that is satisfactory to departmental faculty.
2. The candidate must demonstrate professionalism expected of a student in the particular discipline that is acceptable to faculty and consistent with professional standards.
3. The candidate must discharge all financial obligations to the University and affiliated organizations;
4. The candidate must meet the technical and performance standards for the college and respective program.

Attendance at Graduation

Attendance at graduation is mandatory for students completing their degrees. Those students unable to attend graduation must file a written request with their respective dean to receive a degree *in absentia*. Permission for receiving a degree *in absentia* must be granted by the Dean.

Graduating with Honors Designation

Honors graduates of the undergraduate entry-level programs in the College are so designated in recognition of academic distinction achieved in their respective professional curricula. Honors designations receive special mention in the graduation program and on diplomas, and are based on the following cumulative grade point averages for the **BSN and MSN degree programs**:

- 3.50 - 3.69 Graduation With Honors
- 3.70 - 3.84 Graduation With High Honors
- 3.85 - 4.00 Graduation With Highest Honors

No honors designations are awarded to graduates of the DNP program.

General Education Competencies

General education courses are completed prior to admission to the UTHSC. Students enrolling in the BSN program who have previously completed a bachelor's degree are considered to have met general education competencies. Individuals who have not yet completed a bachelor's degree at the time of application to the BSN program must have completed 60 credits of non-nursing college courses. These include general education courses in math (3 credits), science (11 credits), English (6 credits), behavioral/social sciences (6 or more credits), humanities/fine arts (6 or more credits), and American History (6 credits if not taken in high school).

General education competencies for all UTHSC baccalaureate degrees are:

1. **Communication** – Students must be able to communicate effectively in a style appropriate to the subject, occasion, and audience.
2. **Mathematics** – Students must be able to apply basic mathematical tools in the solution of real-world problems.
3. **Sciences** – Students must be able to apply principles of the natural, behavioral and social sciences in the solution of problems encountered.
4. **Critical Thinking** - Students must be able to demonstrate their ability to solve problems, construct and present cogent arguments in support of one's views, and understand and evaluate arguments presented by others.
5. **Information Literacy** – Students must be able to seek, access, critically evaluate and appropriately apply information.
6. **Technology** - Students must be able to use technology in communicating, solving problems, and acquiring information in a professional manner.

Student achievement of these competencies is assessed through the Test of Essential Academic Skills™ (TEAS 5.0) and course assignments. The TEAS assesses reading, mathematics, science, English, and language usage. Communication competencies are assessed through written papers, professional communication with patients and families in clinical settings, and oral presentations. Mathematics competencies are assessed through the TEAS, successful completion of the medication safety and dosage calculation tests and course, dosage calculations for medication administration on unit exams and in the clinical settings. Science competencies are evaluated based on tests in courses and clinical application of scientific principles. Information literacy is assessed through completion of health literacy modules in the Informatics for Healthcare course, and use of electronic databases, journals and websites. Technology competency is assessed through the use electronic media through the library's electronic books, journals and databases, completion of online practice test questions, electronic medical record charting, and use of handheld devices for point of care delivery.

HONORS AND AWARDS

Nursing Honor Society

The Beta Theta Chapter of Sigma Theta Tau International, the Honor Society of Nursing, was established at UTHSC College of Nursing in 1972. Beta Theta was rechartered in 1988 as Beta Theta Chapter-at-Large to include the University of Memphis Loewenberg School of Nursing and in 2006 to include the Baptist College of Health Sciences School of Nursing. Purposes of the Society are to recognize superior achievement and the development of leadership qualities, to foster high professional standards, encourage creative work, and to strengthen commitments to the ideals and purposes of the profession. Students are eligible for membership consideration.

Faculty Award

The Faculty Award is given annually to graduating students in each degree program with the highest scholastic average in the class.

The Alumni Award

The Alumni Award is presented by the Alumni Association of the UTHSC College of Nursing to a graduate student who has displayed genuine enthusiasm for learning and nursing in addition to superior skill in providing patient care and an outstanding ability to interact with peers, patients, and staff.

Elinor F. Reed Award

The Elinor F. Reed Award is presented to a student chosen by a College of Nursing faculty committee for excellence in patient care.

IMHOTEP Society

The IMHOTEP Society is an organization for the recognition of students, faculty, staff, and alumni who have significantly contributed to student life and student process at UTHSC. The principal objective of the society is to reward and recognize student leadership on campus.

Clinical Nurse Leader Class Award

The Clinical Nurse Leader Class Award is presented to a member of that graduating class who has been chosen by classmates as an outstanding role model. Some of the qualities this award recognizes include: enthusiasm, empathy, motivation, humor, and respect for others.

CURRICULUM SUMMARY

BACHELOR OF SCIENCE IN NURSING (BSN)

Program Description

The BSN program prepares students for initial licensure as registered nurses and entry into professional practice. Graduates provide care throughout the lifespan; design, manage, and coordinate care across environments. In addition to providing care to those who are ill, graduates are involved in health promotion and clinical prevention, and population based healthcare. As the first professional degree in nursing, the BSN also provides foundational knowledge for advanced studies at the master's or doctoral level. The BSN program also provides a means for registered nurses who have graduated from accredited associated degree or diploma nursing programs to obtain knowledge and skills for professional nursing practice at the bachelor degree level.

BSN Program Outcomes

Upon completion of the BSN Program, the graduate will be able to:

1. Use verbal, nonverbal, written, and emerging technology methods to communicate and collaborate effectively with all members of the healthcare team, including the patient and the patient's support network.
2. Deliver safe, spiritually and culturally appropriate evidence-based, patient-centered health promotion and disease and injury prevention interventions.
3. Integrate evidence, clinical judgment, interprofessional perspectives, and patient preferences in planning, implementing, and evaluating outcomes of patient-centered care
4. Demonstrate professional standards of moral, ethical, and legal conduct.
5. Assume accountability for personal and professional behaviors.
6. Apply socio-cultural, economic, ethical, legal, and political factors as a basis for nursing practice.
7. Demonstrate continuous self-evaluation and lifelong learning

Admission Process and Minimum Requirements

Admission is once per year. Applications are due **January 15, 2014** for admission into the Fall 2014 class. All applicant materials must be submitted by the application deadline in order for students to be considered for admission. Applications are submitted through Nursing CAS: <http://nursingcas.org/>

Admission to the BSN Program is competitive. **Minimal** requirements include a grade point average of 3.1 (2.5 for practicing registered nurses), grade point average of 2.6 or better for science pre-requisite courses (sciences with grades of "D" or "F" are not accepted), and for non-nurse applicants, a composite score at or above the national median on the Test of Essential Academic Skills™ (TEAS 5.0). Professional recommendations and the applicant's personal statement are considered as part of the application process for all applicants. If native tongue is not English, evidence of proficiency in English is documented through the submission of the Test of English as a Foreign Language (TOEFL) scores. Minimum proficiency scores: 550 on TOEFL paper version, 213 on TOEFL computer version, and 80 on TOEFL W eb-based version. TOEFL scores must have been earned within two years prior to application. *Applicants may request exemption from the TOEFL examination requirement, for example, an earned high school degree from a U.S. secondary education institution. Requests must be submitted before the application deadline to the Assistant Dean for Student Affairs, (901) 448-6125.*

Pre-requisite courses, including courses that meet general education requirements, are listed in the following table.

Admission Criteria: Pre-requisites

| Courses | Non-nurses with 60 or more college credits | Non-nurses with Bachelor's Degree | RNs with Associate Degree or Nursing Diploma |
|--|---|--|---|
| Human Anatomy & Physiology I/II(w/ lab)* | 8 credits (w/ lab) | 8 credits (w/ lab) | 8 credits (w/ lab) |
| Microbiology (w/ lab)* | 3 credits (w/ lab) | 3 credits (w/ lab) | 3 credits (w/ lab) |
| Statistics | 3 credits | 3 credits | 3 credits |
| English | 6 credits | 6 credits | 6 credits |
| American History** | High school or 6 credits of college US history | High school or 6 credits of college US history | High school or 6 credits of college US history |
| Behavioral/Social Sciences*** | 6 credits or more | 6 credits or more | 6 credits or more |
| Humanities/Fine Arts*** | 6 credits or more | 6 credits or more | 6 credits or more |
| Minimum Total Semester Credits Completed prior to Enrollment^ | 60 | 120 (Bachelor's Degree or higher) | 60 (Non-nursing courses) |
| Required GPA | 3.0 | 3.0 | 2.5 |

* There is a 10 year age limit on required prerequisite science courses for non-nurses. For practicing RNs, there is no age limit on prerequisite science courses.

** An American History requirement must be met. This can be met by completing a year of high school American (US) History or 6 college credits of US History.

*** Students must complete courses that fulfill the Behavioral/Social Sciences and Humanities/Fine Arts general education requirements. Examples can be found on the College of Nursing website:
<http://www.uthsc.edu/nursing/academic%20programs/BSN/>

^ The prerequisite semester credit requirement represents post-high school, non-nursing, collegiate academic studies with a grade of "C" or higher, from regionally accredited colleges and universities. The prerequisite courses in the tables are not offered by UTHSC College of Nursing.

Note: All prerequisite courses must be completed prior to beginning studies at the UT Health Science Center (UTHSC), but do not need to be completed prior to application. Students who have been dismissed from another nursing program are not eligible for admission

Applicants who meet minimum requirements are not guaranteed admission. Students will be notified of admission decisions by email within months of the application deadline, so at or before March 15, 2014. Admission preference is given to residents of Tennessee, but out-of-state applicants are also given consideration. Questions regarding residency status should be addressed to the UTHSC Assistant Director of Enrollment Services, 910 Madison Avenue, Suite 520, Memphis, TN 38163, (901) 448-5560. After admission to the College of Nursing, students pay a \$75 non-refundable admission fee to UTHSC.

Pre-Matriculation Requirements

Students must complete required immunizations, a successful criminal background check and drug screening prior to matriculation. Students must receive medical clearance to meet performance standards and provide evidence of current cardiopulmonary certification and maintain certification throughout the duration of the program. Additionally, registered nurses must have and maintain an unencumbered nursing license with authority to practice in Tennessee for the duration of the program. Background checks and drug screens may be repeated during the student's program of study. Students must maintain health and professional liability insurance during enrollment in the program.

Technical and Performance Standards

All students admitted to the BSN program must meet the following core performance standards for admission and progression:

1. **Critical thinking** sufficient for clinical judgment;
2. **Interpersonal abilities** sufficient to interact with individuals, families, groups, and populations from a variety of social, emotional, cultural, and intellectual backgrounds;
3. **Communication** abilities sufficient for verbal and written interaction with others. Speak, write and comprehend the English language proficiently;
4. **Use computer** to word process, email, and access the World Wide Web;
5. **Physical abilities** sufficient to move from room to room, walk in hallways, maneuver in small spaces, and the strength necessary to lift and transfer patients, including the ability to exert up to 50 lbs. occasionally and 25 lbs. of force frequently. Physical activities include climbing, pushing, standing, reaching, grasping, kneeling, stooping, and repetitive motion.
6. **Gross and fine motor abilities** with good balance and coordination sufficient to provide safe and effective nursing care;
7. **Auditory ability** sufficient to monitor and assess health needs;
8. **Visual ability**, with close visual acuity including color, depth perception, and field of vision sufficient for observation and assessment necessary in nursing care;
9. **Tactile ability and manual dexterity** sufficient for physical assessment and to provide nursing intervention including manipulating equipment necessary for providing nursing care.
10. Have ready access to a Web-connected, laptop personal computer. **Computer literacy and adequate computer skills** are required.

Accreditation

The Bachelor of Science in Nursing (BSN) program is approved by the Tennessee Board of Nursing and will undergo accreditation review by the Commission on Collegiate Nursing Education (CCNE) in Fall 2014.

Classroom, Clinical and Lab Hours Ratio per Credit

The clinical and laboratory hour per credit hour ratio in courses taught in the BSN program are 3:1. Thus, 1 credit equates to 45 hours of clinical or laboratory experience over the course of the term, as well as additional student effort of approximately 22 hours related to preparation for the clinical and laboratory experiences. For didactic courses, a traditional 3 credit hour course using a face-to-face lecture format involves approximately 45 contact hours as well as 90 or more hours of additional student effort over the course of the term.

BSN Curriculum for Non-Nurses Entry

The BSN program for non-nurses is a full-time, accelerated program lasting 17 months. Didactic, laboratory, and clinical experiences are provided. Courses are offered one time per academic year.

| FALL 1 | Credits |
|--|-------------------|
| <u>Block 1</u> | |
| NSG 421 Pathophysiology | 3 (3-0) |
| NSG 403 Health Assessment | 3 (2-1) |
| PHAR 499 Pharmacology | 3 (3-0) |
| NSG 423 Medication Safety in Healthcare | 1 (1-0) |
| NSG 407 Genetics | 1 (1-0) |
| <u>Block 2</u> | |
| NSG 406 Mental Health | 3 (2-1) |
| NSG 404 Intro to Professional Practice | 4 (3-1) |
| NSG 424 Nursing Skills Lab I | 1 (0-1) |
| Total Term Credits | 19 (15-4) |
| | |
| SPRING 1 | Credits |
| NSG 405 Informatics for Healthcare | 3 (3-0) |
| NSG 416 Adult Health Nursing | 7 (4-3) |
| NSG 412. Adult Health Skills II | 1 (0-1) |
| NSG 413. Maternal Child Health | 6 (4-2) |
| Total Term Credits | 17 (12-6) |
| | |
| SUMMER 1 | Credits |
| NSG 410 Professional Issues | 3 (3-0) |
| NSG 414 Intro to Evidence-based Practice | 3 (3-0) |
| Total Term Credits | 6 (6-0) |
| | |
| FALL 2 | Credits |
| <u>Block 1</u> | |
| NSG 415 Health of Populations | 3 (2-1) |
| NSG 431 Acute Care/Gerontology | 6 (4-2) |
| NSG 417 Acute Care Skills III | 1 (0-1) |
| <u>Block 2</u> | |
| NSG 418 Leadership | 3 (3-0) |
| NSG 419 Internship | 4 (0-4) |
| NSG 499 Senior Synthesis Seminar | 1 (1-0) |
| Total Term Credits | 18 (10-8) |
| Total Program Credits | 60 (42-18) |
| Pre-requisites Credits | 60 |
| TOTAL DEGREE CREDITS | 120 |

BSN Curriculum for Registered Nurse Entry-Part-time Only

The BSN program for registered nurses is a part-time program providing didactic, laboratory, and clinical experiences. Courses are offered one time per academic year. Individuals who are already licensed as RNs receive credit for previous nursing course work. The following curriculum schema is for RNs entering the program who have either a diploma in nursing or an associate degree in nursing.

| FALL 1 | Credits |
|--|----------------------|
| <u>Block 1</u> | |
| NSG 421 Pathophysiology | 3 (3-0) |
| NSG 403 Health Assessment | 3 (2-1) |
| PHAR 499 Pharmacology | 3 (3-0) |
| NSG 407 Genetics | 1 (1-0) |
| Total Credits | 10 (9-1) |
| SPRING 1 | Credits |
| NSG 405 Informatics for Healthcare | 3 (3-0) |
| NSG 430 Transition to Professional Nursing | 3 (3-0) |
| Total Credits | 6 (6-0) |
| SUMMER 1 | |
| NSG 410 Professional Issues | 3 (3-0) |
| NSG 414 Intro to Evidence-based Practice | 3 (3-0) |
| Total Credits | 6 (6-0) |
| FALL 2 | |
| <u>Block 1</u> | |
| NSG 415 Health of Populations | 3 (2-1) |
| <u>Block 2</u> | |
| NSG 418 Leadership | 3 (3-0) |
| NSG 419 Internship | 4 (0-4) |
| Total Credits | 10 (5-5) |
| Total Program Credits | 32 (26-6) |
| Pre-requisites Credits | 60 |
| Nursing Credits (from previous education) | 28 |
| TOTAL DEGREE CREDITS | 120 |

MASTER OF SCIENCE IN NURSING-CLINICAL NURSE LEADER PROGRAM

Program Description

The Master of Science in Nursing-Clinical Nurse Leader program at the University of Tennessee Health Science Center prepares advanced nurse generalists. Learning in the professional entry master's CNL nursing program is directed toward the study of scientific rationale underlying nursing care, the development of critical thinking skills, knowledge of clinical microsystems, with a focus on quality, safety, and error reduction. Non-nurses are prepared for initial licensure as registered nurses and certification as a clinical nurse leader, and registered nurses for certification as a clinical nurse leader.

Program Outcomes

Upon completion of the MSN-CNL Program, the graduate will be able to:

1. Apply leadership principles of complexity and healthcare organization to care delivery at the microsystem level.
2. Provide lateral integration of care services.
3. Use epidemiological and scientific principles to evaluate healthcare outcomes.
4. Use evidence-based practice to guide the healthcare of individuals, families, groups, and populations.
5. Manage the care environment by incorporating principles of team coordination, delegation, and supervision.
6. Analyze the effect of healthcare policy on organizational culture and patient care at the microsystem level.
7. Apply principles of quality improvement and risk management to improve healthcare outcomes.
8. Use information technology effectively and efficiently to provide evidence-based care.

Admission Process and Minimum Requirements

Admission is once per year. Applications are due January 15, 2014 for admission into the Fall 2014 class. All applicant materials (for example, application, application fee, recommendations, test results, and official transcripts) must be submitted by the application deadline in order for students to be considered for admission. Applications are submitted through Nursing CAS: <http://nursingcas.org/>

Admission to the MSN Program is competitive. Only applicants who meet minimum academic requirements (grade point average, test scores) will be considered for interview. Minimum requirements for admission to the MSN program are listed in the following table. Applicants who meet minimum requirements are not guaranteed admission. Preference is given to residents of Tennessee, but out-of-state applicants are also given consideration. Application instructions are located at: http://www.uthsc.edu/nursing/future%20students/msn_req.php.

Minimum Requirements

| Criteria | Applicants | |
|--|---------------------------------|---------------------------|
| | Non-Nurses | Registered Nurses |
| Grade point average (submit transcripts) | 3.0 or higher | 2.5 or higher |
| Science pre-requisite GPA *only courses with grades of "C" or higher accepted | 2.6 or higher | 2.6 or higher |
| Science requisites completed within | 5 years | 10 years if practicing RN |
| Professional Recommendations to support the applicant's ability to successfully complete the program and perform in the CNL role | Submit 3 | Submit 3 |
| Personal Statement | Submit | Submit |
| Test of Essential Academic Skills™ (TEAS 5.0). | Score above the national median | Not needed |

| Criteria cont' | Applicants | |
|---|---|---|
| | Non-Nurses | Registered Nurses |
| Graduation from an accredited nursing program with a bachelor degree, associate degree or nursing diploma. | | Submit transcripts with degree or diploma designated |
| Unencumbered registered nurse license with eligibility to practice in Tennessee | Not applicable | Submit copy |
| Interview to assess personal qualities such as professionalism, strong commitment to providing quality care, advanced critical thinking and problem solving skills, and the ability to communicate effectively and engage in effective working relationships. | Scheduled for mid-Feb through early March if applicant meets other criteria | Scheduled for mid-Feb through early March if applicant meets other criteria |

If native tongue is not English, evidence of proficiency in English is documented through the submission of the Test of English as a Foreign Language (TOEFL) scores. Minimum proficiency scores: 550 on TOEFL paper version, 213 on TOEFL computer version, and 80 on TOEFL Web-based version. TOEFL scores must have been earned within two years prior to application. *Applicants may request exemption from the TOEFL examination requirement, for example, an earned high school degree from a U.S. secondary education institution. Requests must be submitted before the application deadline to the Assistant Dean for Student Affairs, (901) 448-6125.*

Applicants who meet minimum requirements are not guaranteed admission. Students will be notified of admission decisions by email within two months of the application deadline, so at or before March 15, 2014. Admission preference is given to residents of Tennessee, but out-of-state applicants are also given consideration. Questions regarding residency status should be addressed to the UTHSC Assistant Director of Enrollment Services, 910 Madison Avenue, Suite 520, Memphis, TN 38163, (901) 448-5560. After admission to the College of Nursing, students pay a \$75 non-refundable admission fee to UTHSC.

Pre-Matriculation Requirements

Students must complete required immunizations, a successful criminal background check and drug screening prior to matriculation. Students must receive medical clearance to meet performance standards and provide evidence of current cardiopulmonary certification that is maintained for the duration of the program. Additionally, registered nurses must hold and maintain for the duration of the program an unencumbered nursing license with authority to practice in Tennessee. Background checks and drug screens may be repeated during the student's program of study. Students must maintain health and professional liability insurance during enrollment in the program.

Technical and Performance Standards

All students admitted to the Master of Science in Nursing (MSN) program must meet the following technical and core performance standards for admission and progression:

1. **Critical thinking** sufficient for clinical judgment;
2. **Interpersonal abilities** sufficient to interact with individuals, families, groups, and populations from a variety of social, emotional, cultural, and intellectual backgrounds;
3. **Communication** abilities sufficient for verbal and written interaction with others. Speak, write and comprehend the English language proficiently;
4. **Use computer** to word process, email, and access the World Wide Web;
5. **Physical abilities** sufficient to move from room to room, walk in hallways, maneuver in small spaces, and the strength necessary to lift and transfer patients, including the ability to exert up to 50 lbs. occasionally and 25 lbs. of force frequently. Physical activities include climbing, pushing, standing, reaching, grasping, kneeling, stooping, and repetitive motion.
6. **Gross and fine motor abilities** with good balance and coordination sufficient to provide safe and effective nursing care;
7. **Auditory ability** sufficient to monitor and assess health needs;
8. **Visual ability**, with close visual acuity including color, depth perception, and field of vision sufficient for observation and assessment necessary in nursing care;
9. **Tactile ability and manual dexterity** sufficient for physical assessment and to provide nursing intervention including manipulating equipment necessary for providing nursing care.
10. Have ready access to a Web-connected, laptop personal computer. Computer literacy and adequate computer skills are required.

Accreditation

The Master of Science in Nursing (MSN) program is approved by the Tennessee Board of Nursing and accredited by the Commission on Collegiate Nursing Education (accredited 2009-2019).

Classroom, Clinical and Lab Hours Ratio per Credit

The clinical and laboratory hour per credit hour ratio in courses taught in the MSN program are 3:1. Thus, 1 credit equates to 45 hours of clinical or laboratory experience over the course of the term, as well as additional student effort of approximately 22 hours related to preparation for the clinical and laboratory experiences. For didactic courses, a traditional 3 credit-hour course using a face-to-face lecture format involves approximately 45 contact hours as well as 90 or more hours of additional student effort over the course of the term.

Master's Entry Clinical Nurse Leader Curriculum for Non-Nurses

The MSN Clinical Nurse Leader program for non-nurses is a full-time, continuous, 23-month program providing didactic, laboratory, and clinical experiences. Courses are offered one time per academic year.

| FALL 1 | Credits |
|--|-------------------------|
| <i>Block 1</i> | |
| NSG 621 Pathophysiology | 3 (3-0) |
| NSG 603 Health Assessment | 3 (2-1) |
| PHAR 699 Pharmacology | 3 (3-0) |
| NSG 523 Medication Safety in Healthcare | 1 (1-0) |
| NSG 507 Genetics | 1 (1-0) |
| <i>Block 2</i> | |
| NSG 506 Mental Health | 3 (2-1) |
| NSG 504 Intro to Professional Practice | 4 (3-1) |
| NSG 524 Nursing Skills Lab I | 1 (0-1) |
| <i>Total Credits</i> | <i>19 (15-4)</i> |
| SPRING 1 | Credits |
| NSG 512 Adult Health Skills II | 1 (0-1) |
| NSG 601 Adult Health Nursing | 7 (4-3) |
| NSG 513. Maternal Child Health | 6 (4-2) |
| NSG 505 Informatics for Healthcare | 3 (3-0) |
| <i>Total Credits</i> | <i>17 (11-6)</i> |
| SUMMER 1 | Credits |
| NSG 510 Professional Issues | 3 (3-0) |
| NSG 514 Intro to Evidence-based Practice | 3 (3-0) |
| <i>Total Credits</i> | <i>6(6-0)</i> |
| FALL 2 | Credits |
| <i>Block 1</i> | |
| NSG 515 Health of Populations | 3 (2-1) |
| NSG 531 Acute Care/Gerontology | 6 (4-2) |
| NSG 517 Acute Care Skills III | 1 (0-1) |
| <i>Block 2</i> | |
| NSG 518 Leadership | 3 (3-0) |
| NSG 519 Internship | 4 (0-4) |
| NSG 599 Senior Synthesis Seminar | 1 (1-0) |
| NSG 652 Professional Role | 3 (3-0) |
| <i>Total Credits</i> | <i>21 (13-7)</i> |

| | |
|---|-------------------|
| Spring 2 | Credits |
| NSG 618 CNL-Quality Management | 2 (2-0) |
| NSG 616 CNL-Healthcare Systems Complexity | 3 (3-0) |
| NSG 617 CNL-Target Population Diagnosis | 4 (3-1) |
| NSG 619 CNL-Clinical Leadership Practicum | 7 (0-7) |
| NSG 650 Introduction of Biostatistics | 3 (3-0) |
| NSG 653 CNL Synthesis Seminar | 1 (1-0) |
| Total Credits | 20(12-8) |
| Total Program Credits | 83 (57-26) |

MSN Clinical Nurse Leader Curriculum for Registered Nurses *without* a BSN

Applicants are no longer admitting to this option.

The MSN Clinical Nurse Leader program for registered nurses who have either a diploma in nursing or an associate degree in nursing offers both full-time and part-time options. Students who enroll full-time typically complete the program in 24 months, while those who enroll part-time typically complete the program in 34 months. Students in the program receive didactic instruction, and laboratory and clinical experiences. Courses are offered one time per academic year. Individuals who are already licensed as registered nurses receive credit for previous nursing course work.

| | |
|---------------------------|----------------|
| FALL 1, Block 1 | Credits |
| NSG 621 Pathophysiology | 3 (3-0) |
| NSG 603 Health Assessment | 3 (2-1) |
| PHAR 699 Pharmacology | 3 (3-0) |
| NSG 507 Genetics | 1 (1-0) |

| | |
|--|------------------|
| FALL 1, Block 2 | Credits |
| NSG 630 Transition to Professional Nursing | 3 (3-0) |
| Total Credits | 13 (12-1) |

| | |
|---|------------------|
| SPRING 1 | Credits |
| NSG 505 Informatics for Healthcare | 3 (3-0) |
| NSG 602 Gerontology Nursing | 2 (2-0) |
| NSG 616 CNL-Healthcare Systems Complexity | 3 (3-0) |
| NSG 617 CNL-Target Population Diagnosis | 4 (3-1) |
| Total Credits | 15 (14-1) |

| | |
|--|----------------|
| SUMMER 1 | Credits |
| NSG 510 Professional Issues | 3 (3-0) |
| NSG 514 Intro to Evidence-based Practice | 3 (3-0) |
| Total Credits | 6(6-0) |

| | |
|---|--------------------|
| FALL 2 , Block 1 | Credits |
| NSG 515 Health of Populations | 3 (2-1) |
| FALL 2, Block 2 | |
| NSG 518 Leadership | 3 (3-0) |
| NSG 519 Internship | 4 (0-4) |
| NSG 652 Professional Role | 3 (3-0) |
| Total Credits | 13 (8-5) |
| Spring 2 | Credits |
| NSG 618 CNL-Quality Management | 2 (2-0) |
| NSG 619 CNL-Clinical Leadership Practicum | 7 (0-7) |
| NSG 650 Introduction of Biostatistics | 3 (3-0) |
| NSG 653 CNL Synthesis Seminar | 1 (1-0) |
| Total Credits | 13(6-7) |
| Total Program Credits | 56 (42 -14) |

MSN Clinical Nurse Leader Curriculum for Registered Nurses *with a BSN*

Registered nurses who have a bachelor in nursing degree may enroll as a full-time or part-time student in the MSN Clinical Nurse Leader program. Students complete the program in three (full-time) or four (part-time) terms. The program provides didactic instruction, and laboratory and clinical experiences. Courses are offered one time per academic year.

FALL 1 **Credits**

Block 1

| | |
|---------------------------|---------|
| NSG 621 Pathophysiology | 3 (3-0) |
| NSG 603 Health Assessment | 3 (2-1) |
| PHAR 699 Pharmacology | 3 (3-0) |

Block 2

| | |
|---------------------------|---------|
| NSG 652 Professional Role | 3 (3-0) |
|---------------------------|---------|

Total Credits **12(11-1)**

SPRING 1 **Credits**

| | |
|---|---------|
| NSG 650 Introduction of Biostatistics | 3 (3-0) |
| NSG 618 CNL- Quality Management | 2 (2-0) |
| NSG 616 CNL-Healthcare Systems Complexity | 3 (3-0) |
| NSG 617 CNL-Target Population Diagnosis | 4 (3-1) |

Total Credits **12(11-1)**

FALL 2 **Credits**

| | |
|---|---------|
| NSG 653 CNL Synthesis Seminar | 1 (1-0) |
| NSG 619 CNL-Clinical Leadership Practicum | 7 (0-7) |

Total Credits **8 (1-7)**

Total Program Credits **32 (23-9)**

DOCTOR OF NURSING PRACTICE (DNP) PROGRAM

Program Description

The DNP degree represents the culmination of study that prepares graduates for advanced levels of nursing practice. Emphasis is placed on nursing care that is based upon philosophical, ethical, and scientific principles. In addition to the advanced clinical practice series, all students enroll in core courses focusing on concepts essential for analysis and evaluation of practice outcomes. Students select an area for scholarly examination of internal and external factors that influence nursing care in their clinical areas. This process guides the students in identification and evaluation of practice issues. Students collaborate with expert clinicians in their specialty areas.

Course work in all DNP options, other than Nurse Anesthesia, is conducted primarily online with required, week-long, on-campus sessions three times yearly. Faculty meet with students during the on-campus sessions for classroom instruction, exams, student presentations, competency testing, and advisement. Clinical experiences are scheduled in proximity to the student's residence. Students wear their UTHSC picture identification while on-campus and at clinical sites. Student placement in clinical sites is verified by preceptors, and faculty conduct clinical site visits or videoconferencing sessions with the student and preceptors.

Upon completion of the DNP Program, the graduate will be able to:

1. Demonstrate advanced levels of clinical judgment/scholarship in nursing practice.
2. Critically analyze complex clinical situations and practice systems.
3. Evaluate and apply conceptual models, theories, and research in order to improve healthcare of diverse populations.
4. Systematically investigate a clinically focused area of nursing in order to advance healthcare.
5. Analyze the social, economic, political, and policy components of healthcare systems which affect care planning and delivery.
6. Assume leadership roles in the development of clinical practice models, health policy, and standards of care.
7. Integrate professional values and ethical decision-making in advanced nursing practice.

Admission Process and Minimum Requirements

Registered nurses with either a bachelor of science in nursing or a master of science in nursing seeking preparation for advanced practice may apply to the following DNP program options: (1) Adult Gerontology Acute Care Nurse Practitioner, (2) Family Nurse Practitioner, (3) Neonatal Nurse Practitioner, (4) Nurse Anesthesia, and (5) Psychiatric Mental Health Nurse Practitioner. Applicants may choose to complete a plan of study enabling completion the Family Nurse Practitioner option with either (a) Psychiatric Mental Health Nurse Practitioner, (b) Adult Gerontology Acute Care Nurse Practitioner, or (c) Forensics Nursing. **For the 2013 and 2014 admission cycles, we are not admitting to the Public Health, Forensic Nursing, or dual Family Nurse Practitioner/Forensic Nursing options.**

Admission is once per year. All application materials (for example: application, application fee, recommendations, test results, and official transcripts from all colleges attended) must be submitted by the application deadline in order for students to be considered for admission. Deadlines for the DNP program applications for 2014 entry are:

- September 1, 2013: DNP Nurse Anesthesia option
- January 15, 2014: DNP Program (all options *except* Nurse Anesthesia, Public Health, Forensic Nursing, and dual Family Nurse Practitioner/Forensic Nursing)

Instructions for submitting applications to the DNP Program are available on the College of Nursing website: <http://www.uthsc.edu/nursing/academic%20programs/DNP/>. Applications are submitted through Nursing CAS: <http://nursingcas.org/> with the exception of the Nurse Anesthesia option. Applicants applying to the DNP program Nurse Anesthesia option complete a paper application packet (accessed at: <http://www.uthsc.edu/nursing/academic%20programs/DNP/>).

Admission to the DNP Program is competitive. Only applicants who meet minimum academic requirements will be considered for admission; however applicants who meet minimal requirements are not guaranteed admission.

Academic Preparation and Achievement Admission Criteria

Applicants must document evidence of having earned a bachelor of science in nursing or higher degree in nursing from an accredited nursing program. Only applicants with a cumulative GPA of at least 3.0 based on all collegiate work or a cumulative GPA of at least 3.2 earned during the applicant's most recently completed degree program will be considered for admission. The GPA calculation for the most recently completed degree will be based only on those grades earned at the degree-granting institution. Applicants may submit additional documents to demonstrate professional scholarship and leadership abilities that could make them more competitive.

Essay, Professional Recommendations, and Interview Criteria

In addition to academic qualifications, applicants are assessed through (1) an essay; (2) professional recommendations; and (3) interviews.

- **Essay** - The purpose of the essay is to provide the College of Nursing Admissions Committee further insight into the professional goals, motivation, and expectations of the applicant and to evaluate written communication skills. Applicants are asked to respond to specific questions on the application essay form.
- **Recommendation Forms** - Applicants must submit 3 Recommendation Forms from graduate prepared nurses or faculty members who can address their potential or ability for functioning in the advanced practice role (clinical skills, critical thinking, independent decision making, collaborative skills with other health professionals, and nursing leadership). Applicants currently enrolled in a BSN or MSN program should have at least 1 Recommendation Form submitted by a faculty member in that program.
- **Interview** – Applicants meeting admission criteria and selected for further admission consideration must participate in an interview for the purpose of evaluating communication and decision-making skills, educational goals and current leadership, scholarship, practice roles and activities. The interview will be in-person, face-to-face unless extraordinary circumstances warrant other arrangements. The DNP Program Director is charged with the responsibility for making decisions related to “extraordinary circumstances.” Match of applicant’s educational goals with faculty programs of practice is an important factor assessed in the interview.

English Language Proficiency

If native tongue is not English, evidence of proficiency in English is documented through the submission of the Test of English as a Foreign Language (TOEFL) scores. Minimum proficiency scores: 550 on TOEFL paper version, 213 on TOEFL computer version, and 80 on TOEFL Web-based version. TOEFL scores must have been earned within two years prior to application. *Applicants may request exemption from the TOEFL examination requirement, for example, an earned high school degree from a U.S. secondary education institution. Requests must be submitted before the application deadline to the Assistant Dean for Student Affairs, (901) 448-6125.*

DNP Program Option Specific Admission Criteria

Applicants to the DNP program are considered for admission to their selected specialty options within the College of Nursing. The total number of students admitted to the DNP program will vary depending on the number of positions available in each specialty option. Additionally, applicants may be more or less competitive within an option based on previous performance in selected course work.

Nurse Anesthesia Option Specific Admission Criteria:

- Grades in basic sciences, are considered in addition to the cumulative GPA..
- Students must submit Graduate Record Examination scores. Official scores must have been earned within 5 years of the application deadline date [September 1st].
- Provide evidence of Students must have at least one year of critical care experience at time of application.
- In addition of basic cardiopulmonary resuscitation certification, applicants must provide evidence of advanced cardiopulmonary life support certification (ACLS) and pediatric advanced life support (PALS) certification.
- Recommendations should be completed by faculty members who can address academic ability and one recommendation form should be completed by an employer or professional who can address professional performance.

Interview and Acceptance Notifications

Interviews for the DNP Nurse Anesthesia option will be conducted in mid-September and decision notification sent via email in early October. Interviews for all other DNP options will be conducted in mid to late March. Students will be notified of admission decisions by email within three months of the application deadline, so at or before April 15, 2014. Applicants who meet minimum requirements are not guaranteed admission. Admission preference is given to residents of Tennessee, but out-of-state applicants are also given consideration. Questions regarding residency status should be addressed to the UTHSC Assistant Director of Enrollment Services, 910 Madison Avenue, Suite 520, Memphis, TN 38163, (901) 448-5560. After admission to the College of Nursing, students pay a \$75 non-refundable admission fee to UTHSC.

Detailed DNP program description, admission requirements, and program curricula can be found at <http://www.uthsc.edu/nursing/academic%20programs/DNP>.

Pre-Matriculation Requirements

Students must complete required immunizations, a successful criminal background check and drug screening prior to matriculation. Students must receive medical clearance to meet technical and performance standards. Registered nurses must have and maintain an unencumbered nursing license with authority to practice in Tennessee for the duration of the program. Evidence of current cardiopulmonary certification must be presented and certification must be maintained throughout the duration of the program. Background checks and drug screens may be repeated during the student's program of study. Students must maintain health and professional liability insurance during enrollment in the program.

Technical and Performance Standards: All DNP Options

In addition the technical and performance standards expected of all students in educational programs in the College of Nursing, students in the DNP program are also expected to possess the mental, auditory, visual, sensory, strength, manual dexterity, and communication skills to:

1. Perform a systematic and complete history and physical examination on a client;
2. Communicate significant examination findings to other professionals and client/family;
3. Appropriately assess and record subjective and objective findings;
4. Maintain effective relationships and interact appropriately with other professionals and clients/families, demonstrating skills of leadership collaborations and decisiveness;
5. Accurately analyze alterations in functional patterns;
6. Demonstrate advanced use of the nursing process: assess, develop, implement, educate and counsel clients, prescribe appropriate therapy, demonstrate self-care skills and evaluate appropriate plans of action for diagnosed problems;
7. Maintain flexibility and emotional stability in response to novel, unique situations and stress;

Additional Technical and Performance Standards Specific to Nurse Anesthesia Option

1. Safely provide airway management and be able to maintain advanced life support systems while operating and interpreting multiple monitoring modalities;
2. Rapidly respond and intervene in emergency situations requiring anesthesia care throughout the spectrum of practice settings.

Additional Technical and Performance Standards Specific to Adult-Gerontology Acute Care Nurse Practitioner Option

1. Anticipate common, acute, and life-threatening problems encountered in critically ill patients.
2. Identify ethical issues in critical care practice and participate in ethical decision making using a systematic approach.
3. Develop/participate in the development of theory based educational programs for critically ill patients/families and nursing personnel.
4. Analyze/critique critical care research and demonstrate/role model the appropriate integration of research into practice.

Technical and Performance Standards Specific to Family Nurse Practitioner, Forensic Nursing, Neonatal Nurse Practitioner, Psychiatric Mental Health Nurse Practitioner, Pediatric Nurse Practitioner, and Public Health Nursing.*

1. Anticipate potential common, acute self-limiting, and selected chronic problems.
2. Develop insight into own emotional functioning to evaluate the ability to provide therapeutic intervention for a client.

**Students in the DNP Public Health Nursing option may focus on population based care and competencies rather than care to individuals.*

Accreditation

The Doctor of Nursing Practice program is accredited by the Commission on Collegiate Nursing Education (accredited 2009-2014).

Classroom, Clinical and Lab Hours Ratio per Credit

The clinical and laboratory hour per credit hour ratio in courses taught in the DNP program are 4:1. Thus, 1 credit equates to 60 hours of clinical or laboratory experience over the course of the term, as well as additional student effort of approximately 30 hours related to preparation for the clinical and laboratory experiences. For didactic courses, a traditional 3 credit-hour course using a face-to-face lecture format involves approximately 45 contact hours as well as 90 or more hours of additional student effort over the course of the term. For didactic courses taught online or using a hybrid format, a 3 credit-hour course would involve at least 135 hours of student effort over the term.

Length of Program and Sample Curricular Schema

Detailed DNP program option descriptions and option specific program curricula can be found at <http://www.uthsc.edu/nursing/academic%20programs/DNP/>. Samples of typical curricular schema are provided for the Family Nurse Practitioner option (entering post-MSN with FNP certification); Adult Gerontology Acute Care Nurse Practitioner option (entering post-BSN or post-MSN without certification); and dual Psychiatric Mental Health/Family Nurse Practitioner option (entering post-BSN or post-MSN with certification and seeking coursework enabling dual certification). These schema reflect 2012-2013 schema. Any modification in the schemas for a given entering class will be provided during new student orientation.

For students enrolled full-time in the DNP program, the length of the program is 2-3 years, dependent upon whether the student (1) enrolls post-BSN or post-MSN; (2) is post-MSN with advanced practice certification in the area of study; or (3) is enrolling in a dual program. Structured part-time plans of study are available in select DNP options and can be completed in 2.5 to 4.5 years. Part-time study is not available for students in the Nurse Anesthesia or dual options. Plans of study are provided during summer advisement sessions with course coordinators.

**SAMPLE Family Nurse Practitioner Post- MSN
with FNP Certification**

| Fall -Year 1 | Courses | Credits |
|----------------------------------|-----------------------------|-------------------|
| NSG 911 | Philosophy of Science | 3(3-0) |
| BIOE 712 | Principles of Epidemiology | 3(3-0) |
| NSG 814 | Biostatistics | 3(3-0) |
| TOTAL | | 9 (9-0) |
| Spring-Year 1 | | |
| NSG 916 | Concept and Theory Analysis | 3(3-0) |
| HOPR 851 | Leadership & Health Policy | 3(3-0) |
| NAPS 871 | Primary Care Nursing | 4 (2-2) |
| TOTAL | | 10 (8-2) |
| Fall –Year 2 | | |
| HOPR 877 | Healthcare Economics | 3(3-0) |
| NSG 819 | Evaluation of Practice | 4(4-0) |
| NAPS 871 | Primary Care Nursing | 4 (2-2) |
| TOTAL | | 11 (9-2) |
| Spring-Year 2 | | |
| NSG 926 | Resident Practicum | 6(0-6) |
| NSG 946 | Residency Project | 3(3-0) |
| TOTAL | | 9 (3-6) |
| TOTAL PROGRAM CREDITS | | 39 (29-10) |
| <i>clinical clock hrs</i> | | 600 |

**SAMPLE Adult Gerontology Acute Care Nurse Practitioner
Post-BSN or Post-MSN without certification**

| Fall -Year 1 | Courses | Credits |
|------------------------------|--|------------------------|
| NSG 911 | Philosophy of Science | 3(3-0) |
| BIOE 712 | Principles of Epidemiology | 3(3-0) |
| NSG 814 | Biostatistics | 3(3-0) |
| TOTAL | | 9 (9-0)12(12-0) |
| Spring-Year 1 | | |
| PATH 605 | Advanced Pathology | 3(3-0) |
| NSG 824 | Advanced Health Assessment and Diagnosis | 3(2-1) |
| HOPR 851 | Leadership & Health Policy | 3(3-0) |
| PHAR 830 | Advanced Pharmacology | 3(3-0) |
| TOTAL | | 12(11-1) |
| Fall –Year 2 | | |
| HOPR 877 | Healthcare Economics | 3(3-0) |
| ACNP 804 | Advanced Acute Care | 4(4-0) |
| ACNP 805 | Acute Diagnostic Reasoning | 2 (2-0) |
| ACNP 806 | Acute Clinical Assessment | 4(0-4) |
| TOTAL | | 13(9-4) |
| Spring-Year 2 | | |
| ACNP 807 | Advanced Critical Care | 2(2-0) |
| ACNP 808 | Acute Care Management | 4(0-4) |
| NSG 916 | Concept and Theory Analysis | 3(3-0) |
| TOTAL | | 11 (7-4) |
| Fall-Year 3 | | |
| NSG 819 | Evaluation of Practice | 4(4-0) |
| NSG 852 | DNP Professional Role Development | 2(2-0) |
| ACNP 809 | Advanced Practice Practicum | 4(0-4) |
| ACNP 810 | Advanced Practice Specialty | 3(3-0) |
| TOTAL | | 13(9-4) |
| Spring-Year 3 | | |
| NSG 926 | Resident Practicum | 6(0-6) |
| NSG 946 | Residency Project | 3(3-0) |
| TOTAL | | 9 (3-6) |
| TOTAL PROGRAM CREDITS | | 65 (46-19) |
| clinical clock hrs | Adult Gerontology Acute Care clinical | 1140 |

SAMPLE Psychiatric/Mental Health and Family Nurse Practitioner Option

Post-BSN or Post-MSN without certification

| Fall -Year 1 | Courses | Credits |
|----------------------|--|-----------------|
| NSG 911 | Philosophy of Science | 3(3-0) |
| BIOE 712 | Principles of Epidemiology | 3(3-0) |
| NSG 814 | Biostatistics | 3(3-0) |
| TOTAL | | 9(90) |
| Spring-Year 1 | | |
| PATH 605 | Advanced Pathology | 3(3-0) |
| NSG 824 | Advanced Health Assessment and Diagnosis | 3(2-1) |
| HOPR 851 | Leadership & Health Policy | 3(3-0) |
| PHAR 830 | Advanced Pharmacology | 3(3-0) |
| NSG 837 | Assessment Strategies in Psych/Mental Health Nursing | 3(3-0) |
| TOTAL | | 15(14-1) |
| Fall –Year 2 | | |
| HOPR 877 | Healthcare Economics | 3(3-0) |
| FNP 800 | Advanced Family Nursing I | 4(4-0) |
| FNP 801 | Advanced Family Clinical Practice I | 4(0-4) |
| NSG 930 | Biological Treatments for Psychiatric Disorders | 3(3-0) |
| TOTAL | | 14(10-4) |
| Spring-Year 2 | | |
| FNP 802 | Advanced Family Nursing II | 4(4-0) |
| FNP 803 | Advanced Family Clinical Practice II | 4(0-4) |
| NSG 916 | Concept and Theory Analysis | 3(3-0) |
| PMH 800 | Individual, Group & Family Therapy | 3(3-0) |
| PMH 801 | Clinical Indiv, Group and Family Therapy | 2(0-2) |
| TOTAL | | 16(10-6) |
| Summer-Year 2 | | |
| FNP 804 | Advanced Practice Practicum | 4(0-4) |
| TOTAL | | 4(0-4) |
| Fall-Year 3 | | |
| NSG 819 | Evaluation of Practice | 4(4-0) |
| NSG 852 | DNP Professional Role Development | 2(2-0) |
| PMH 802 | Psych Mental Hlth Disorders | 3(3-0) |
| PMH 803 | Clinical Psych Mental Hlth Disorders | 2(0-2) |
| TOTAL | | 11(9-2) |
| Spring-Year 3 | | |
| NSG 926 | Resident Practicum | 6(0-6) |
| NSG 946 | Residency Project | 3(3-0) |
| NSG 921 | PMH Seminar | 1(1-0) |
| TOTAL | | 10(4-6) |

TOTAL PROGRAM CREDITS**79 (56-23)**

| | | |
|---------------------------|------------------------------------|-------------|
| clinical clock hrs | Total clinical hours | 1380 |
| clinical clock hrs | Family Nurse Practitioner clinical | 780 |
| clinical clock hrs | Psychiatric Mental Health clinical | 600 |

DOCTOR OF NURSING PRACTICE (DNP) – DOCTOR OF PHILOSOPHY IN NURSING SCIENCE (PhD)

The Doctor of Nursing Practice – Doctor of Philosophy (DNP/PhD) Program provides highly motivated and qualified students with an integrated advanced clinical and research program of study leading to a combined DNP/PhD degree. This program combines the existing DNP and PhD nursing programs, which are based in the College of Nursing and the College of Graduate Health Sciences, respectively. Unlike the traditional DNP program, the DNP/PhD program focuses on developing the student's ability to conduct clinical research. Typically, students do not enroll in clinical specialty courses until the fourth term of the program. The total time to graduation varies and depends on the student's background. Students first must be accepted to the College of Nursing DNP program to be considered for admission to the DNP/PhD Program.

NON-DEGREE SPECIAL STUDENTS

Individuals who wish to enroll under the non-degree student classification complete an abbreviated application form that is available from the College of Nursing, Office of Academic Affairs. Individuals desiring to take graduate courses must hold a Baccalaureate or higher degree, meet course prerequisites, and declare this on the application. No test scores, letters of evaluation, or Admission Committee approval are required. Applications should be sent to the College of Nursing, Office of Academic Affairs. Upon approval, forms will be forwarded for processing from the College of Nursing to the Office of Enrollment Services. The student must register and pay fees to the Cashier on the official date of registration for that term.

Only selected courses are available to non-degree individuals, and enrollment is limited to available space within a course. Non-degree students are required to fulfill the same course requirements as regular students and are subject to all academic rules and regulations as outlined in the current catalog along with the official UTHSC student handbook, *CenterScope*. Non-degree students enrolled in graduate courses must earn a grade of B or better in any course taken to receive credit for that course toward a degree at the UTHSC. Any coursework taken as a non-degree student will be recorded on the student's UT transcript, is considered during the admission process, and is included in the applicant's GPA computation. All coursework taken at the UTHSC is included in the student's GPA calculation.

At the time of admission to non-degree student status, no commitment is stated or implied concerning subsequent admission to the graduate nursing programs. If admission to a degree program is desired at a later time, a non-degree student must make separate application and satisfy the admission requirements of the degree program to which admission is sought.

A maximum of 9 credit hours taken as a non-degree student in the College of Nursing may be applied to the MSN or DNP degree, subject to approval by the Associate Dean of Academic Affairs.

Policies and Procedures for Non-Degree Student Classification

The College of Nursing has a non-degree graduate student classification for those individuals who are not candidates for a degree but who wish to take courses for credit. The non-degree classification is tailored to meet the needs of a variety of individuals including:

1. Individuals whose regular applications are pending or accepted but whose admission is not until next term.
2. Individuals enrolled at other institutions who take courses at UTHSC College of Nursing for credit acceptable to the home institution.
3. Individuals who are registered nurses seeking to continue their development.
4. Individuals who wish to pursue a post-doctoral non-degree course of study that leads to eligibility to sit for a certification examination.
5. All non-degree students are accepted on a space available basis

Procedure for Processing Non-Degree Student Enrollment

1. The Associate Dean for Academic Affairs will determine courses that are appropriate for non-degree students.
2. The Associate Dean for Academic Affairs will compile and distribute a list of the course offerings that have been approved to interested applicants along with an abbreviated application form with a deadline for application submission.
3. The applicant will submit the application form to the College of Nursing Office of Academic Affairs.
4. Applicants will complete the regular registration process and pay fees at the established times.

Questions regarding academic programs in the College of Nursing should be addressed to:

The University of Tennessee Health Science Center
College of Nursing, Office of Student Affairs
920 Madison Avenue, Suite 1053
Memphis, TN 38163 (901) 448-6125
www.uthsc.edu/nursing

Academic Standards for Non-Degree Students

The admission requirements are consistent with the criteria for admission to the professional colleges of UTHSC. Academic standards include admission process, admission requirements, and all policies governing the progression and graduation of students.

COURSE DESCRIPTIONS

Course Descriptions - BSN Program

- NSG 403 Health Assessment** *Credit: 3 (2-1)* This course prepares the student to perform a holistic, patient-centered assessment across the lifespan. Skills addressed that are needed for the systematic assessment of health status include critical thinking, interviewing, obtaining a health history, performance of a physical examination, and documentation. [Block 1, Aug-mid Oct.]. *Mode of delivery:* Didactic and Lab. *Offered:* Fall. *Instructor of Record:* Hallie Bensinger (Fall).
- NSG 404 Introduction to Professional Practice** *Credit: 4 (3-1)* This course focuses on concepts, skills and techniques foundational for professional nursing practice. Students are provided opportunities to apply critical thinking skills to explore professional values, nursing process and the professional nursing role. [Block 2, mid Oct. – Dec]. *Mode of delivery:* Didactic and clinical. *Pre-Requisites:* NSG 403 Health Assessment, PHAR 499 Pharmacology, NSG 421 Pathophysiology, NSG 423 Medication Safety in Healthcare *Offered:* Fall. *Instructor of Record:* Brenda Hill (Fall).
- NSG 405 Informatics for Healthcare** *Credit: 3 (3-0)* This course provides an overview of healthcare information technology and computer science systems to prepare students to effectively and efficiently use technology for the identification, collection, processing, and management of data/information. Legal, ethical, sociocultural, spiritual, economic, and global environmental factors that affect healthcare information technology are explored. *Mode of delivery:* Didactic Hybrid. *Offered:* Spring. *Instructor of Record:* Kathy Putman (Spring).
- NSG 406 Mental Health** *Credit: 3 (2-1)* This course provides the theoretical and clinical foundation for providing safe, effective, patient-centered, evidence-based, culturally competent nursing care to individuals, groups and families experiencing mental health challenges. The course focuses on therapeutic communication as an integral component of the nursing process. Legal, ethical, sociocultural, spiritual, political, economic, historical and global environmental factors that affect the mental health of individuals, families, groups, and populations are explored. [Block 2, mid Oct. – Dec]. *Mode of delivery:* Didactic and clinical. *Pre-Requisites:* NSG 403 Health Assessment, PHAR 499 Pharmacology, NSG 421 Pathophysiology, NSG 423 Medication Safety in Healthcare *Offered:* Fall. *Instructor of Record:* Jackie Sharp (Fall).
- NSG 407 Genetics** *Credit: 1 (1-0)* This course provides a foundation for understanding and applying genetic knowledge within the clinical setting. Legal, ethical, sociocultural, spiritual, political, economic, historical and global environmental factors that affect the field of human genetics are explored. [Block 1, Aug.-mid Oct.]. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* J. Carolyn Graff (Fall).
- NSG 410 Section 001 Professional Issues** *Credit: 3 (3-0)* This course examines historical and contemporary issues affecting the nursing profession. Students also explore the role of nursing theory in the continued development of professional nursing. Limited to 30 students. *Mode of delivery:* Didactic Hybrid. *Offered:* Summer.
- NSG 410 Section 002 Professional Issues** *Credit: 3 (3-0)* This course examines historical and contemporary issues affecting the nursing profession. Students also explore the role of nursing theory in the continued development of professional nursing. Limited to 30 students. *Mode of delivery:* Didactic Hybrid. *Offered:* Summer.
- NSG 412 Adult Health Skills II** *Credit: 1 (0-1)* This course focuses on the development of competency in essential technical skills used to deliver safe, evidence-based, quality, patient-centered nursing care to adults. *Mode of delivery:* Lab. *Co-Requisites:* NSG 416 Adult Health *Offered:* Spring. *Instructor of Record:* Cheryl Scott (Spring).

- NSG 413 Maternal Child Health** *Credit: 6 (4-2)* This course provides the theoretical and clinical foundation for providing safe, effective, patient-centered, evidence-based, and culturally competent healthcare to women, children, adolescents, and their families. Nursing care of pregnant women, infants, and their families during a normal pregnancy and developmental aspects associated with preventive care and health promotion of children and adolescents along the wellness-illness continuum are examined. Legal, ethical, sociocultural, economic, political, historical, and global environmental factors that affect reproductive and child and adolescent health are examined. *Mode of delivery:* Didactic and clinical. *Pre-Requisites:* NSG 404 Introduction to Professional Practice, NSG 406 Mental Health, NSG 424 Nursing Skills Lab I *Offered:* Spring. *Instructor of Record:* Alise Farrell (Spring).
- NSG 414 Section 001 Introduction to Evidence Based Practice** *Credit: 3 (3-0)* This course focuses on the research method and the role of the professional nurse in critiquing and utilizing nursing research literature. Research as it relates to healthcare and clinical nursing practice is examined. Limited to 30 students. *Mode of delivery:* Didactic Hybrid. *Offered:* Summer.
- NSG 414 Section 002 Introduction to Evidence Based Practice** *Credit: 3 (3-0)* This course focuses on the research method and the role of the professional nurse in critiquing and utilizing nursing research literature. Research as it relates to healthcare and clinical nursing practice is examined. Limited to 30 students. *Mode of delivery:* Didactic Hybrid. *Offered:* Summer.
- NSG 415 Health of Populations** *Credit: 3 (2-1)* This course provides the theoretical and clinical foundation for providing safe, patient-centered, evidence-based, culturally competent and community-focused nursing care to populations. The course focuses on community health assessment, planning, and education. Legal, ethical, sociocultural, spiritual, political, economic, historical and global environmental factors that affect the process of health promotion and disease prevention are examined. [Block 1, Aug.- mid. Oct]. *Mode of delivery:* Didactic and clinical Hybrid. *Pre-Requisites:* NSG 416 Adult Health, NSG 412 Adult Health Skills II, NSG 413 Maternal Child Health or licensure as a registered nurse *Offered:* Fall.
- NSG 416 Adult Health Nursing** *Credit: 7 (4-3)* This course provides the theoretical and clinical foundation for providing safe, patient-centered, evidence-based nursing care through teamwork to improve the quality of care to adult patients and families. This course focuses on promotion of health and function, management of illness, and provision of comfort through the use of information and technology for decision making and error reduction. Legal, ethical, sociocultural, spiritual, political, economic, historical, and global environmental factors that affect the health of adults are examined. *Mode of delivery:* Didactic and clinical. *Pre-Requisites:* NSG 404 Introduction to Professional Practice, NSG 406 Mental Health, NSG 424 Nursing Skills Lab I *Offered:* Spring. *Instructor of Record:* Jacqueline Sharp (Spring).
- NSG 417 Acute Care Skills III** *Credit: 1 (0-1)* This course focuses on the development of advanced skills used to provide nursing care in complex care settings. [Block 1, Aug.-mid Oct.]. *Mode of delivery:* Lab. *Offered:* Fall.
- NSG 418 Leadership** *Credit: 3 (3-0)* This course focuses on the basic concepts and theories of open systems and outcomes at the patient, organization, and healthcare levels, as they apply to nursing leadership and beginning management roles. Leadership, organization and management practices, and their impact on nurses, healthcare delivery systems, and patient outcomes are emphasized. Legal, ethical, sociocultural, spiritual, political, economic, historical and global environmental factors, which affect and are affected by the quality of leadership, are examined. [Block 2, mid Oct-Dec.]. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* NSG 431 Acute Care/Gerontology, NSG 417 Acute Care Skills III or licensure as registered nurse *Co-Requisites:* Leadership *Offered:* Fall.
- NSG 419 Internship** *Credit: 4 (0-4)* The clinical internship provides the opportunity, within a select area of interest, to facilitate role transition and lifelong learning. Emphasis will be on integration and application of knowledge and skills in order to demonstrate the ability to design, provide, manage, and coordinate evidence-based, culturally competent, and cost-effective nursing care. [Block 2, mid-Oct-Dec]. *Mode of delivery:* Didactic and clinical. *Co-Requisites:* NSG 418 Leadership *Offered:* Fall.

- NSG 421 Pathophysiology** *Credit: 3 (3-0)* This course focuses on study of the etiology, pathogenesis, and clinical manifestations associated with common disease processes across the life span, the interrelationship of interacting factors that affect morbidity and mortality, and the scientific rationale related to therapeutic principles of treatment resulting from an alteration in normal physiology. [Block 1, Aug.-mid Oct.]. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Tommie Norris (Fall).
- NSG 422 Directed Study** *Credit: 2-6* An elective course designed to provide the student with the opportunity to undertake guided study and/or clinical experience in a focused area. Elective course. *Mode of delivery:* Didactic and/or clinical Hybrid. May be repeated twice up to 8 credit hours *Offered:* Fall, Spring.
- NSG 423 Medication Safety in Healthcare** *Credit: 1 (1-0)* This course emphasizes patient-centered safe medication administration based on best-practices using technology and interprofessional team collaboration to improve healthcare outcomes. [Block 1, Aug.-mid Oct.]. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Melody Waller (Fall).
- NSG 424 Nursing Skills Lab I** *Credit: 1 (0-1)* Within a simulated environment, this course focuses on the development of competency in foundational skills used to deliver safe, evidence-based, quality, patient- centered nursing care. [Block 1, mid-Oct.-Dec]. *Mode of delivery:* Lab. *Co-Requisites:* NSG 404 Introduction to Professional Practice *Offered:* Fall. *Instructor of Record:* Cheryl Scott (Fall).
- NSG 430 Transition to Professional Nursing** *Credit: 3 (3-0)* This course examines the transition to professional nurse for registered nurse students. Socialization, philosophy of nursing, professional communication, scholarly practice, and information technology will be explored. Critical thinking is also emphasized. This course is only for students who are registered nurses. *Mode of delivery:* Didactic. *Offered:* Fall, Spring. *Instructor of Record:* Hallie Bensinger (Spring).
- NSG 431 Acute Care/Gerontology** *Credit: 6 (4-2)* This course provides the theoretical and clinical foundation for providing safe, effective patient-centered, evidence-based nursing care to adult patients and families in a complex healthcare setting. This course focuses on promotion of health and function, management of acute illness and injury and provision of comfort through the use of information and technology for decision-making and error reduction. Legal, ethical, sociocultural, spiritual, political, economic, historical, and global environmental factors that affect the health of adults in the acute care setting are examined. [Block 1, Aug-mid Oct.]. *Mode of delivery:* Didactic and clinical. *Pre-Requisites:* NSG 416 Adult Health, NSG 412 Adult Health Skills II, NSG 413 Maternal Child Health *Co-Requisites:* NSG 417 Acute Care Skills III *Offered:* Fall.
- NSG 499 Senior Synthesis Seminar** *Credit: 1 (1-0)* This course focuses on concept synthesis to prepare the graduate for entry into the profession. Emphasis is placed on critical decision making needed for professional nursing practice. [Block 2, mid Oct-Dec]. *Mode of delivery:* Didactic. *Pre-Requisites:* NSG 431 Acute Care/Gerontology *Offered:* Fall.
- PHAR 499 Pharmacology** *Credit: 3 (3-0)* This course builds a foundation of pharmacology, focusing on major drug classifications, their actions and side effects. Emphasis is on basic pharmacology and pharmacotherapeutics. [Block 1, Aug.-mid Oct.]. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Jacqueline Burchum (Fall).

Course Descriptions – Master of Science in Nursing: Clinical Nurse Leader

Note: All MSN-CNL courses are offered annually unless otherwise specified.

- NSG 504 Introduction to Professional Practice** *Credit: 4 (3-1)* This course focuses on concepts, skills and techniques foundational for professional nursing practice. Students are provided opportunities to apply critical thinking skills to explore professional values, nursing process and the professional nursing role. [Block 2, mid-Oct. – Dec.]. *Mode of delivery:* Didactic and clinical. *Pre-Requisites:* NSG 621 Pathophysiology, NSG 603 Health Assessment, and PHAR 699 Pharmacology, NSG 523. Medication Safety in Healthcare *Co-Requisites:* NSG 524 Nursing Skills Lab I *Offered:* Fall. *Instructor of Record:* Brenda Hill (Fall).
- NSG 505 Informatics for Healthcare** *Credit: 3 (3-0)* This course provides an overview of healthcare information technology and computer science systems to prepare students to effectively and efficiently use technology for the identification, collection, processing, and management of data/information. Legal, ethical, sociocultural, spiritual, economic, and global environmental factors that affect healthcare information technology are explored. *Mode of delivery:* Didactic Hybrid. *Offered:* Spring. *Instructor of Record:* Kathy Putman (Spring).
- NSG 506 Mental Health** *Credit: 3 (2-1)* This course provides the theoretical and clinical foundation for providing safe, effective, patient-centered, evidence-based, culturally competent nursing care to individuals, groups and families experiencing mental health challenges. The course focuses on therapeutic communication as an integral component of the nursing process. Legal, ethical, sociocultural, spiritual, political, economic, historical and global environmental factors that affect the mental health of individuals, families, groups, and populations are explored. [Block 2, mid-Oct.-Dec.],. *Mode of delivery:* Didactic and clinical. *Pre-Requisites:* NSG 621 Pathophysiology, NSG 603 Health Assessment, and PHAR 699 Pharmacology *Offered:* Fall. *Instructor of Record:* Jackie Sharp (Fall).
- NSG 507 Genetics** *Credit: 1 (1-0)* This course provides a foundation for understanding and applying genetic knowledge within the clinical setting. Legal, ethical, sociocultural, spiritual, political, economic, historical and global environmental factors that affect the field of human genetics are explored. [Block 1, Aug-mid Oct.]. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* J. Carolyn Graff (Fall).
- NSG 510 Professional Issues** *Credit: 3 (3-0)* This course examines historical and contemporary issues affecting the nursing profession. Students also explore the role of nursing theory in the continued development of professional nursing. *Mode of delivery:* Didactic Hybrid. *Offered:* Summer.
- NSG 512 Adult Health Skills II** *Credit: 1 (0-1)* This course focuses on the development of competency in essential technical skills used to deliver safe, evidence-based, quality, patient-centered nursing care to adults. *Mode of delivery:* Lab. *Co-Requisites:* NSG 601 Adult Health Nursing *Offered:* Spring. *Instructor of Record:* Cheryl Scott (Spring).
- NSG 513 Maternal Child Health** *Credit: 6 (4-2)* This course provides the theoretical and clinical foundation for providing safe, effective, patient- centered, evidence-based, and culturally competent healthcare to women, children, adolescents, and their families. Nursing care of pregnant women, infants, and their families during a normal pregnancy and developmental aspects associated with preventive care and health promotion of children and adolescents along the wellness-illness continuum are examined. Legal, ethical, sociocultural, economic, political, historical, and global environmental factors that affect reproductive and child and adolescent health are examined. *Mode of delivery:* Didactic and clinical. *Offered:* Spring. *Instructor of Record:* Alise Farrell (Spring).
- NSG 514 Introduction to Evidence Based Practice** *Credit: 3 (3-0)* This course focuses on the research method and the role of the professional nurse in critiquing and utilizing nursing research literature. Research as it relates to healthcare and clinical nursing practice is examined. *Mode of delivery:* Didactic Hybrid. *Offered:* Summer.

- NSG 515 Health of Populations** *Credit: 3 (2-1)* This course provides the theoretical and clinical foundation for providing safe, patient-centered, evidence-based, culturally competent and community-focused nursing care to populations. The course focuses on community health assessment, planning, and education. Legal, ethical, sociocultural, spiritual, political economic, historical and global environmental factors that affect the process of health promotion and disease prevention are examined. [Block 1, Aug. – mid Oct.]. *Mode of delivery:* Didactic and clinical Hybrid. *Pre-Requisites:* NSG 601 or documentation of licensure as a registered nurse *Offered:* Fall. *Instructor of Record:* Keevia Porter (Fall).
- NSG 516 Acute Care** *Credit: 5 (3-2)* This course provides the theoretical and clinical foundation for providing safe, effective patient-centered, evidence-based nursing care to adult patients and families in a complex healthcare setting. This course focuses on promotion of health and function, management of acute illness and injury and provision of comfort through the use of information and technology for decision-making and error reduction. Legal, ethical, sociocultural, spiritual, political, economic, historical, and global environmental factors that affect the health of adults in the acute care setting are examined. *Mode of delivery:* Didactic. *Co-Requisites:* NSG 517 Acute Care Skills III *Offered:* Fall. *Instructor of Record:* Jami Smith (Fall).
- NSG 517 Acute Care Skills III** *Credit: 1 (0-1)* This course focuses on the development of advanced skills used to provide nursing care in complex care settings. [Block 1, Aug. – mid Oct.]. *Mode of delivery:* Lab. *Co-Requisites:* NSG 516 Acute Care (NOTE: For Fall 2013 only) *Offered:* Fall. *Instructor of Record:* Cheryl Scott (Fall).
- NSG 518 Leadership** *Credit: 3 (3-0)* This course focuses on the basic concepts and theories of open systems and outcomes at the patient, organization, and healthcare levels, as they apply to nursing leadership and beginning management roles. Leadership, organization and management practices, and their impact on nurses, healthcare delivery systems, and patient outcomes are emphasized. Legal, ethical, sociocultural, spiritual, political, economic, historical and global environmental factors, which affect and are affected by the quality of leadership, are examined. [Block 1, Aug.- mid. Oct.]. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* NSG 515 Health of Populations, NSG 517 Acute Care Skills III, NSG 531 Acute Care/Gerontology *Offered:* Fall. *Instructor of Record:* Sherry Webb (Fall).
- NSG 519 Internship** *Credit: 4 (0-4)* The clinical internship provides the opportunity, within a select area of interest, to facilitate role transition and lifelong learning. Emphasis will be on integration and application of knowledge and skills in order to demonstrate the ability to design, provide, manage, and coordinate evidence-based, culturally competent, and cost-effective nursing care. [Block 2, mid Oct.-Dec.]. *Mode of delivery:* Didactic and clinical. *Co-Requisites:* NSG 518 Leadership *Offered:* Fall. *Instructor of Record:* Sherry Webb (Fall).
- NSG 522 Directed Study** *Credit: 2-6* An elective course designed to provide the student with the opportunity to undertake guided study and/or clinical experience in a focused area. Directed Study may be offered any term under Faculty direction in accordance with an approved plan of study. *Mode of delivery:* Didactic and/or clinical Hybrid. May be repeated twice up to 8 credit hours *Offered:* Fall, Spring.
- NSG 523 Medication Safety in Healthcare** *Credit: 1 (1-0)* This course emphasizes patient-centered safe medication administration based on best-practices using technology and interprofessional team collaboration to improve healthcare outcomes. [Block 1, Aug. – mid Oct.]. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Melody Waller (Fall).
- NSG 524 Nursing Skills Lab I** *Credit: 1 (0-1)* Within a simulated environment, this course focuses on the development of competency in foundational skills used to deliver safe, evidence-based, quality, patient- centered nursing care. [Block 2, mid Oct. – Dec]. *Mode of delivery:* Lab. *Co-Requisites:* NSG 504 Introduction to Professional Practice *Offered:* Fall. *Instructor of Record:* Cheryl Scott (Fall).

- NSG 525 Cultural Competence and Language Acquisition for Hispanic Populations** *Credit: 3 (2-1)*
This elective course provides the theoretical and clinical foundation for providing safe, effective, patient-centered, evidence-based, and culturally competent nursing care to Hispanic populations. This course focuses on acquisition of the Spanish language geared toward healthcare providers, as well as, cultural diversity as it relates to the Hispanic population. Legal, ethical, cultural, and social factors which affect the health of Hispanic patients are examined. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Fall. *Instructor of Record:* Tommie Norris (Fall).
- NSG 531 Acute Care/Gerontology** *Credit: 6 (4-2)* This course provides the theoretical and clinical foundation for providing safe, effective patient-centered, evidence-based nursing care to adult patients and families in a complex healthcare setting. This course focuses on promotion of health and function, management of acute illness and injury and provision of comfort through the use of information and technology for decision-making and error reduction. Legal, ethical, sociocultural, spiritual, political, economic, historical, and global environmental factors that affect the health of adults in the acute care setting are examined. [Block 1, Aug. – mid Oct.]. *Mode of delivery:* Didactic and clinical. *Pre-Requisites:* NSG 601 Adult Health Nursing, NSG 513 Maternal Child Health *Offered:* Fall.
- NSG 599 Senior Synthesis Seminar** *Credit: 1 (1-0)* This course focuses on concept synthesis to prepare the graduate for entry into the profession. Emphasis is placed on critical decision making needed for professional nursing practice. [Block 2, mid-Oct. – Dec.]. *Mode of delivery:* Didactic. *Co-Requisites:* NSG 518 Leadership, NSG 519 Internship *Offered:* Fall. *Instructor of Record:* Melody Waller (Fall).
- NSG 601 Adult Health Nursing** *Credit: 7 (4-3)* This course provides the theoretical and clinical foundation for providing safe, patient-centered, evidence-based nursing care through teamwork to improve the quality of care to adult patients and families. This course focuses on promotion of health and function, management of illness, and provision of comfort through the use of information and technology for decision making and error reduction. Legal, ethical, sociocultural, spiritual, political, economic, historical, and global environmental factors that affect the health of adults are examined. *Mode of delivery:* Didactic and clinical. *Pre-Requisites:* NSG 504 Introduction to Professional Practice, NSG 524 Nursing Skills Lab I, NSG 506 Mental Health *Offered:* Spring. *Instructor of Record:* Jacqueline Sharp (Spring).
- NSG 602 Gerontological Nursing** *Credit: 2 (2-0)* This course provides the theoretical foundation for providing safe, patient-centered, evidence-based nursing care through teamwork to improve the quality of care to older adults. The course focuses on assessment and promotion of health and wellness, management of disease, provision of comfort, and end of life care. Legal, ethical, sociocultural, spiritual, political, economic, historical, and global environmental factors that affect the health of older adults are examined. *Mode of delivery:* Didactic Hybrid. *Offered:* (not currently offered).
- NSG 603 Health Assessment** *Credit: 3 (2-1)* This course prepares the student to perform a holistic, patient-centered assessment across the lifespan. Skills addressed that are needed for the systematic assessment of health status include critical thinking, interviewing, obtaining a health history, performance of a physical examination, and documentation. [Block 1, Aug.-mid Oct.]. *Mode of delivery:* Didactic and Lab. *Offered:* Fall. *Instructor of Record:* Hallie Bensinger (Fall).
- NSG 609 Special Topics: Pharmacology** *Credit: 3 (3-0)* This elective course builds a foundation of pharmacology, focusing on major drug classifications, their actions and side effects. Emphasis is on using pharmacologic principles and pharmacotherapeutics to provide evidence-based, patient-centered care across the lifespan. *Mode of delivery:* Didactic Online. *Offered:* Fall.

- NSG 610 Special Topics: Health Assessment** *Credit: 2 (2-0)* This elective course prepares the student to perform a holistic, patient-centered assessment across the lifespan. Skills addressed that are needed for the systematic assessment of health status include critical thinking, interviewing, obtaining a health history, performance of physical examination, and documentation. *Mode of delivery:* Didactic Online. *Offered:* (not currently offered).
- NSG 613 Interviewing and Counseling** *Credit: 2 (2-0)* This course focuses on increasing the knowledge and skills in communication that are essential to effective helping in the multiple roles of advanced nursing practice. Content includes major communication theories and research, the establishment and maintenance of effective interpersonal relationships, and counseling and interviewing strategies. Students participate in experiential exercises using the presented strategies. *Mode of delivery:* Didactic Online. *Offered:* (not currently offered).
- NSG 616 Clinical Nurse Leader (CNL) - Healthcare Systems Complexity** *Credit: 3 (3-0)* This course provides a conceptual framework for the delivery of care within complex healthcare environments using principles of complexity science in relation to healthcare systems and organizations. Topics include complexity, organizational and change theories and innovations, organizational culture, healthcare systems, integration of care, regulatory issues, health policy and politics, evaluation of complex healthcare issues and strategic planning. *Mode of delivery:* Didactic. *Pre-Requisites:* NSG 518 Leadership, NSG 519 Internship or licensure as a registered nurse *Offered:* Spring. *Instructor of Record:* Sherry Webb (Spring).
- NSG 617 Clinical Nurse Leader (CNL) - Target Population Diagnosis** *Credit: 4 (3-1)* This course provides the philosophy and framework for population health and the care of aggregates within the clinical microsystem. Analysis and application of theory and skills needed to assess and diagnosis microsystem structures, patterns, and processes affecting clinical and cost outcomes of target populations within complex health systems are presented. Concepts of health promotion, risk reduction, and disease prevention are emphasized, along with characteristics of successful microsystems to teach students microsystem thinking and approaches for sustainable improvements in the quality and value of front-line care delivery. *Mode of delivery:* Didactic and clinical. *Pre-Requisites:* NSG 518 Leadership, NSG 519 Internship or licensure as a registered nurse *Offered:* Spring. *Instructor of Record:* Keevia Porter (Spring).
- NSG 618 Section 001 Clinical Nurse Leader (CNL) - Quality Management** *Credit: 2 (2-0)* This course provides a foundation for the examination, analysis, improvement of processes and outcomes within the healthcare microsystem using the process improvement methodologies. Emphasis on improving processes for better clinical and cost outcomes is provided. Limited to 30 students. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* NSG 518 Leadership, NSG 519 Internship or licensure as a registered nurse *Offered:* Spring.
- NSG 618 Section 002 Clinical Nurse Leader (CNL) - Quality Management** *Credit: 2 (2-0)* This course provides a foundation for the examination, analysis, improvement of processes and outcomes within the healthcare microsystem using the process improvement methodologies. Emphasis on improving processes for better clinical and cost outcomes is provided. Limited to 30 students. *Mode of delivery:* Didactic Hybrid. *Pre-Requisites:* NSG 518 Leadership, NSG 519 Internship or licensure as a registered nurse *Offered:* Spring.
- NSG 619 Section 001 Clinical Nurse Leader (CNL)-Clinical Leadership Practicum** *Credit: 7 (0-7)* This course focuses on implementation of the CNL role in a selected healthcare microsystem. During the 315-hour immersion experience, the student acquires in-depth skills related to the practice and evaluation of interprofessional care. Focus is on accountability for design coordination, delegation, supervision, and evaluation of care provided by the unit based healthcare team. Limited to 12 students. *Mode of delivery:* Clinical. *Pre-Requisites:* NSG 518 Leadership, NSG 519 Internship or licensure as a registered nurse *Offered:* Spring.

- NSG 619 Section 002 Clinical Nurse Leader (CNL)-Clinical Leadership Practicum** *Credit: 7 (0-7)*
This course focuses on implementation of the CNL role in a selected healthcare microsystem. During the 315-hour immersion experience, the student acquires in-depth skills related to the practice and evaluation of interprofessional care. Focus is on accountability for design coordination, delegation, supervision, and evaluation of care provided by the unit based healthcare team. Limited to 12 students. *Mode of delivery:* Clinical. *Pre-Requisites:* NSG 518 Leadership, NSG 519 Internship or licensure as a registered nurse *Offered:* Spring.
- NSG 619 Section 003 Clinical Nurse Leader (CNL)-Clinical Leadership Practicum** *Credit: 7 (0-7)*
This course focuses on implementation of the CNL role in a selected healthcare microsystem. During the 315-hour immersion experience, the student acquires in-depth skills related to the practice and evaluation of interprofessional care. Focus is on accountability for design coordination, delegation, supervision, and evaluation of care provided by the unit based healthcare team. Limited to 12 students. *Mode of delivery:* Clinical. *Pre-Requisites:* NSG 518 Leadership, NSG 519 Internship or licensure as a registered nurse *Offered:* Spring.
- NSG 619 Section 004 Clinical Nurse Leader (CNL)-Clinical Leadership Practicum** *Credit: 7 (0-7)*
This course focuses on implementation of the CNL role in a selected healthcare microsystem. During the 315-hour immersion experience, the student acquires in-depth skills related to the practice and evaluation of interprofessional care. Focus is on accountability for design coordination, delegation, supervision, and evaluation of care provided by the unit based healthcare team. Limited to 12 students. *Mode of delivery:* Clinical. *Pre-Requisites:* NSG 518 Leadership, NSG 519 Internship or licensure as a registered nurse *Offered:* Spring.
- NSG 619 Section 005 Clinical Nurse Leader (CNL)-Clinical Leadership Practicum** *Credit: 7 (0-7)*
This course focuses on implementation of the CNL role in a selected healthcare microsystem. During the 315-hour immersion experience, the student acquires in-depth skills related to the practice and evaluation of interprofessional care. Focus is on accountability for design coordination, delegation, supervision, and evaluation of care provided by the unit based healthcare team. Limited to 12 students. *Mode of delivery:* Clinical. *Pre-Requisites:* NSG 518 Leadership, NSG 519 Internship or licensure as a registered nurse *Offered:* Spring.
- NSG 621 Pathophysiology** *Credit: 3 (3-0)* This course focuses on the study of the etiology, pathogenesis, and clinical manifestations associated with common disease processes across the life span. Using technology and evidence-based practice, the interrelationship of patient-centered factors that affect morbidity/ mortality and the scientific rationale related to diagnostic testing will be identified. [Block 1, Aug.-mid Oct.]. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Tommie Norris (Fall).
- NSG 623 Special Topics** *Credit: 1-6* This course will provide students with the opportunity to strengthen their knowledge base in identified curricular areas needed for progression in their academic program. This course can be repeated once for a (Didactic and/or clinical). *Mode of delivery:* Didactic and/or clinical. May be repeated once up to 8 credit hours *Offered:* Fall, Spring. *Instructor of Record:* Tommie Norris (Fall); Tommie Norris (Spring).
- NSG 630 Transition to Professional Nursing** *Credit: 3 (3-0)* This course examines the transition to professional nurse for registered nurse students. Socialization, philosophy of nursing, professional communication, scholarly practice, and information technology will be explored. Critical thinking is also emphasized. *Mode of delivery:* Didactic. *Offered:* Fall (not currently offered).
- NSG 650 Section 001 Introduction to Biostatistics** *Credit: 3 (3-0)* This course will introduce and apply fundamental biostatistical concepts. It also provides a survey of data and data types. Limited to 30 students. *Mode of delivery:* Didactic Online. *Offered:* Spring.
- NSG 650 Section 002 Introduction to Biostatistics** *Credit: 3 (3-0)* This course will introduce and apply fundamental biostatistical concepts. It also provides a survey of data and data types. Limited to 30 students. *Mode of delivery:* Didactic Online. *Offered:* Spring.

- NSG 652 Professional Role** *Credit: 3 (3-0)* This course focuses on role development of the professional nurse and clinical nurse leader. Students analyze essential patient advocacy and education competencies to ensure delivery of quality care as a professional nurse. Role transition is supported by examination of the front-line clinical leadership competencies: nursing leadership, clinical outcomes management, and care environment management. Content includes analysis of barriers to and facilitator for effective clinical leadership in the microsystem. Emphasis is placed on high reliability practice, error prevention, congruency of values and action, professional advocacy, and creating and sustaining a healthy environment. [Block 2, mid Oct.-Dec.]. *Mode of delivery:* Didactic. *Co-Requisites:* NSG 518 Leadership, NSG 519 Internship or licensure as a registered nurse *Offered:* Fall. *Instructor of Record:* Keavia Porter (Fall).
- NSG 653 Clinical Nurse Leader-Synthesis Seminar** *Credit: 1 (1-0)* This course focuses on concept synthesis to prepare the graduate as a Clinical Nurse Leader (CNL). Emphasis is placed on clinical thinking skills needed for practice as a CNL. *Mode of delivery:* Didactic. *Co-Requisites:* NSG 619 Clinical Nurse Leader-Clinical Leadership Practicum *Offered:* Spring. *Instructor of Record:* Alise Farrell (Spring).
- PHAR 699 Pharmacology** *Credit: 3 (3-0)* This course builds a basic foundation of pharmacology, focusing on major drug classifications, their actions and side effects. Emphasis is on using pharmacologic principles and pharmacotherapeutics to provide evidence-based, patient-centered care across the lifespan. [Block 2, Aug.-mid Oct.]. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Jacqueline Burchum (Fall).

Course Descriptions – Doctor of Nursing Practice

Courses described below are available to students enrolled in the DNP or DNP/PhD program and having completed any additional pre-requisites noted. Select courses available for Special Status (non-degree seeking) students by permission of course director.

- ACNP 804 Advanced Acute Care** *Credit: 4 (4-0)* This adult acute care nurse practitioner course focuses on the complex care of acutely ill adult patients frequently encountered in acute care settings. Content includes diagnosis and management of episodic and chronic illness; diagnostic tests; technologic and therapeutic interventions; and crisis/disaster management strategies. Particular attention is given to providing evidence based, comprehensive, individualized, ethical, and collaborative care that takes into consideration health quality, costs, and outcomes for the acutely ill patient. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Sheila Melander (Fall).
- ACNP 805 Acute Diagnostic Reasoning** *Credit: 2 (2-0)* This is a foundational course for the specialization of the Adult Acute Care Nurse Practitioner. Diagnostic reasoning, common invasive procedures, emergency therapeutics, standards of care, team principles, and use of information systems in acute clinical practice are emphasized. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Carol Thompson (Fall).
- ACNP 806 Acute Clinical Assessment** *Credit: 4 (0-4)* This is the first Adult Acute Care Nurse Practitioner clinical course focusing on the care of the adult acutely ill patient. Settings include all units where highly acutely ill patients' individual needs can be met and their outcomes optimally achieved. Students conduct an inclusive history and physical examination, document findings, and then assist with planning and implementing a comprehensive evidence-based plan of care. This course prepares the student to assess and begin to diagnose episodic and chronic highly acute illnesses, interpret diagnostic tests, utilize technologic and therapeutic interventions, and apply crisis/disaster management strategies. *Mode of delivery:* Clinical. *Offered:* Fall.

- ACNP 807 Advanced Critical Care** *Credit: 2 (2-0)* This adult acute care nurse practitioner course focuses on the complex care of critically ill adult patients. Content includes the diagnosis and management of critical illness. Particular attention is given to providing evidence based, comprehensive, individualized, and collaborative care that takes into consideration health quality, costs, and outcomes for the critically ill patient. Radiological interpretation, end-of-life care, critique of acute care nurse practitioner role issues and scholarly writing are also included. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall, Spring. *Instructor of Record:* Sheila Melander (Fall); Sheila Melander (Spring).
- ACNP 808 Acute Clinical Management** *Credit: 4 (0-4)* This Adult Acute Care Nurse Practitioner clinical course focuses on the management of the care of the adult acutely ill patient. Settings include all units where complex acutely ill patients' individual needs can be met and their outcomes optimally achieved. Emphasis is placed on prioritizing assessment and interventions according to the patient's most immediate and potentially life threatening/altering need. Pharmacologic and complementary comprehensive management content from admission to discharge is stressed. Content is focused on providing evidence-based comprehensive management with special considerations highlighted for geriatric and other high risk patients. Integration of critical thinking skills, information technology, risk/benefit analysis and quality indicators are used to develop and evaluate care plans. Therapeutic relationships with patients and the healthcare team are enhanced. *Mode of delivery:* Clinical. *Offered:* Fall, Spring. *Instructor of Record:* Donna Lynch-Smith (Fall); Donna Lynch-Smith (Spring).
- ACNP 809 Advanced Practice Practicum** *Credit: 4 (0-4)* The focus of this course is clinical analysis of care systems within the diverse role of the independent adult-gerontology acute care nurse practitioner. Students will use root cause analysis and human factor principles in the acute care environment. Effective multi- professional team partnership and conflict resolution strategies will be utilized. Students will apply informatics strategies to improve the quality of care for the acute care patient population. Evidence based practice will be used as the standard for clinical competence. *Mode of delivery:* Clinical. *Offered:* Fall. *Instructor of Record:* Donna Lynch-Smith (Fall).
- ACNP 810 Advanced Practice Specialty** *Credit: 3 (3-0)* The focus of this course is improving care systems within the diverse role of the independent adult-gerontology nurse practitioner. Principles of root cause analysis, error management, effective team communication, conflict resolution strategies, and informatics strategies in the acute care environment will be emphasized. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Sheila Melander (Fall).
- ACNP 811 Section 001 Advanced Clinical Assessment: Adult-Gerontology Acute Care Nurse Practitioner** *Credit: 2-4 (0-[2-4])* This Adult-Gerontology Acute Care Nurse Practitioner clinical course focuses on the clinical assessment and care of complex adult patients who are physiologically unstable, technologically dependent, and/or are highly vulnerable to complications. This course prepares the student to assess and diagnose episodic and chronic highly acute illnesses, interpret diagnostic tests, and use technologic and therapeutic interventions. Limited to 8 students. *Mode of delivery:* Clinical. *Pre-Requisites:* Pre-requisite or Co- requisite: NSG 824: Advanced Health Assessment and Diagnosis *Offered:* Fall, Spring.
- ACNP 811 Section 002 Advanced Clinical Assessment: Adult-Gerontology Acute Care Nurse Practitioner** *Credit: 2-4 (0-[2-4])* This Adult-Gerontology Acute Care Nurse Practitioner clinical course focuses on the clinical assessment and care of complex adult patients who are physiologically unstable, technologically dependent, and/or are highly vulnerable to complications. This course prepares the student to assess and diagnose episodic and chronic highly acute illnesses, interpret diagnostic tests, and use technologic and therapeutic interventions. Limited to 8 students. *Mode of delivery:* Clinical. *Pre-Requisites:* Pre-requisite or Co- requisite: NSG 824: Advanced Health Assessment and Diagnosis *Offered:* Fall, Spring.

- ACNP 811 Section 003 Advanced Clinical Assessment: Adult-Gerontology Acute Care Nurse Practitioner** *Credit: 2-4 (0-[2-4])* This Adult-Gerontology Acute Care Nurse Practitioner clinical course focuses on the clinical assessment and care of complex adult patients who are physiologically unstable, technologically dependent, and/or are highly vulnerable to complications. This course prepares the student to assess and diagnose episodic and chronic highly acute illnesses, interpret diagnostic tests, and use technologic and therapeutic interventions. Limited to 8 students. *Mode of delivery:* Clinical. *Pre-Requisites:* Pre-requisite or Co-requisite: NSG 824: Advanced Health Assessment and Diagnosis *Offered:* Fall, Spring.
- ACNP 812 Advanced Clinical Management Adult-Gerontology Acute Care Nurse Practitioner** *Credit: 2-4 (0-[2-4])* This Adult-Gerontology Acute Care Nurse Practitioner clinical course focuses on the diagnosis and management of complex adult patients who are physiologically unstable, technologically dependent, and/or are highly vulnerable to complications. Emphasis is placed on prioritizing assessments and interventions according to the patient's most immediate and potentially life threatening/altering need. Content is focused on evidence-based, pharmacologic and complementary comprehensive management with special considerations for geriatric and other high risk patients from admission to discharge. Integration of critical thinking skills, information technology, risk/benefit analysis and quality indicators are used to develop and evaluate care plans. Collaborative relationships with the health care team are enhanced and therapeutic relationships with patients are fostered. *Mode of delivery:* Clinical. *Pre-Requisites:* Pre-requisite or Co-requisite: ACNP 811 Advanced Clinical Assessment: Adult-Gerontology Acute Care Nurse Practitioner *Offered:* Fall, Spring. *Instructor of Record:* Donna Lynch-Smith (Spring).
- ANAT 817 DNP APN Anatomy** *Credit: 4 (3-1)* This course provides scientific underpinnings in histology, gross anatomy and clinical anatomy for basic science, procedures, and the delivery of anesthesia care. This course focuses on anatomy at the micro- and macro-cellular level through the inclusion of laboratory experiences. *Mode of delivery:* Didactic and Lab. *Offered:* Fall. *Instructor of Record:* Roy Oswaks (Fall).
- ANES 876 DNP Medical Physical Sciences for Anesthesia** *Credit: 3 (3-0)* This course builds upon a foundation of basic science principles for the delivery of anesthesia care, physiology and pharmacology. This course focuses on chemical and physical scientific principles applicable to the practice of anesthesia. *Mode of delivery:* Didactic. *Offered:* Summer.
- ANES 877 DNP Physiology/Pathology** *Credit: 5 (5-0)* This course provides the scientific underpinnings in human normal and abnormal physiology for anesthetic management of differing pathological states. This course focuses on physiology and pathology at the micro- and macro-cellular levels. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Jill Oswaks (Spring).
- ANES 879 Principles of DNP Anesthesia Practice I** *Credit: 5 (5-0)* This course is the preliminary course for principles of nurse anesthesia practice. This course focuses on the application of theoretical basic sciences to anesthesia practice. Students will critique anesthetic care strategies based on the framework of basic sciences, pharmacology, standards of practice and systems. *Mode of delivery:* Didactic. *Offered:* Summer.
- ANES 880 Principles of DNP Anesthesia Practice II** *Credit: 6 (5-1)* This course focuses on clinical consequences of abnormal physiology on anesthetic management in relation to patient co-morbidities, surgical procedures and system effects. This course focuses on the implementation and evaluation of appropriate anesthesia procedures relative to patient status, including co-morbidities, the surgical procedures and systems. Students will evaluate care delivery in a simulated clinical laboratory environment. *Mode of delivery:* Didactic and clinical. *Pre-Requisites:* 879 ANES *Offered:* Fall. *Instructor of Record:* Jill Oswaks (Fall).

- ANES 882 Principles of DNP Anesthesia Practice III** *Credit: 2 (2-0)* This course focuses on the examination of clinical consequences of abnormal physiology on anesthetic management states within the specialty areas of anesthesia and surgery and system effects. This course focuses on the specialty areas of anesthesia and surgery. Students will recommend anesthetic care strategies based on the framework of basic sciences, pharmacology, standards of practice and systems. *Mode of delivery:* Didactic. *Pre-Requisites:* ANES 879 and ANES 880 *Offered:* Spring. *Instructor of Record:* Dwayne Accardo (Spring).
- ANES 883 Section 001 DNP Anesthesia Practicum A** *Credit: 8 (0-8)* This preliminary course integrates didactic knowledge based on the framework of basic sciences, pharmacology, standards of practice and systems with practical application in nurse anesthesia. This course focuses on the student's ability to achieve a level of proficiency with the normal, healthy patient and the patient with mild systemic disease (no functional limitation), assigned a physical status classification of P1 and P2. Limited to 8 students. *Mode of delivery:* Didactic and clinical. *Offered:* Spring.
- ANES 883 Section 002 DNP Anesthesia Practicum A** *Credit: 8 (0-8)* This preliminary course integrates didactic knowledge based on the framework of basic sciences, pharmacology, standards of practice and systems with practical application in nurse anesthesia. This course focuses on the student's ability to achieve a level of proficiency with the normal, healthy patient and the patient with mild systemic disease (no functional limitation), assigned a physical status classification of P1 and P2. Limited to 8 students. *Mode of delivery:* Didactic and clinical. *Offered:* Spring.
- ANES 884 Section 001 DNP Anesthesia Practicum B** *Credit: 6 (0-6)* This course provides a clinical opportunity for the intermediate student nurse anesthetist to integrate previously mastered knowledge and skills in the care of a more comprehensive range of patients. This course focuses on the student's ability to achieve a level of proficiency with the normal, healthy patient and the patient with mild systemic disease (no functional limitation) for emergency surgery, assigned a physical status classification of P 1E and P2E and the patient with severe systemic disease (with some functional limitations) assigned a physical status classification of P3 status and the P3E who presents for emergency surgery. Limited to 8 students. *Mode of delivery:* Clinical. *Offered:* Summer.
- ANES 884 Section 002 DNP Anesthesia Practicum B** *Credit: 6 (0-6)* This course provides a clinical opportunity for the intermediate student nurse anesthetist to integrate previously mastered knowledge and skills in the care of a more comprehensive range of patients. This course focuses on the student's ability to achieve a level of proficiency with the normal, healthy patient and the patient with mild systemic disease (no functional limitation) for emergency surgery, assigned a physical status classification of P 1E and P2E and the patient with severe systemic disease (with some functional limitations) assigned a physical status classification of P3 status and the P3E who presents for emergency surgery. Limited to 8 students. *Mode of delivery:* Clinical. *Offered:* Summer.
- ANES 885 DNP Anesthesia Practicum C** *Credit: 7 (0-7)* This course provides a clinical opportunity for the student nurse anesthetist to integrate previously mastered knowledge and skills in the care of a more comprehensive range of patients. This course focuses on the student's ability to achieve a level of proficiency with the patient with severe systemic disease that is a constant threat to life (functionally incapacitated) assigned an assigned a physical status classification of P4 status and the moribund patient who is not expected to survive without the procedure/surgery assigned a physical status classification of P5 and these same patients who present for emergency surgery assigned as P4E and P5E. *Mode of delivery:* Clinical. *Offered:* Fall. *Instructor of Record:* Loree Thompson (Fall).
- ANES 886 DNP Specialty Practicum A** *Credit: 7 (0-7)* This is the first in a series of two clinical courses in which the DNP nurse anesthesia student integrates previously mastered knowledge and skills in the care of patients from the five specialty areas of anesthesia and surgery. The focus of this course is on the student's ability to achieve proficiency for obstetric, pediatric, neurosurgical, trauma or cardiac surgical patients. *Mode of delivery:* Clinical. *Offered:* Fall. *Instructor of Record:* Dwayne Accardo (Fall).

- ANES 887 Section 001 DNP Specialty Practicum B** *Credit: 7 (0-7)* This is the second in a series of two clinical courses in which the DNP nurse anesthesia student integrates previously mastered knowledge and skills in the care of patients from the five specialty areas of anesthesia and surgery. This course focuses on the student's ability to achieve proficiency for obstetric, pediatric, neurosurgical, trauma or cardiac surgical patients. Limited to 8 students. *Mode of delivery: Clinical. Pre-Requisites: 886 ANES Offered: Spring.*
- ANES 887 Section 002 DNP Specialty Practicum B** *Credit: 7 (0-7)* This is the second in a series of two clinical courses in which the DNP nurse anesthesia student integrates previously mastered knowledge and skills in the care of patients from the five specialty areas of anesthesia and surgery. This course focuses on the student's ability to achieve proficiency for obstetric, pediatric, neurosurgical, trauma or cardiac surgical patients. Limited to 8 students. *Mode of delivery: Clinical. Pre-Requisites: 886 ANES Offered: Spring.*
- ANES 888 Roles of DNP Adv Nurse Anesthesia Practice I** *Credit: 1 (1-0)* This course is one of a series of four providing a comprehensive in-depth exploration of advanced nursing practice. This course focuses on historical and developmental aspects of advanced practice nursing and professional organization to guide role implementation as it relates to advanced practice nursing and nurse anesthesia. *Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Jill Oswaks (Fall).*
- ANES 889 Roles of DNP Adv Nurse Anesthesia Practice II** *Credit: 1 (1-0)* This course is one of a series of four providing a comprehensive in-depth exploration of advanced nursing practice. This course focuses on legal and regulatory aspects of advanced practice nursing to guide role implementation as it relates to advanced practice nursing and nurse anesthesia. *Mode of delivery: Didactic. Offered: Spring. Instructor of Record: Jill Oswaks (Spring).*
- ANES 890 Roles of DNP Adv Nurse Anesthesia Practice III** *Credit: 1 (1-0)* This course is one of a series of four providing a comprehensive in-depth exploration of advanced nursing practice. This course is designed to give an overview of the evolution of ethics, cultural care and the effect ethical and cultural care has on nurse anesthesia practice. *Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Jill Oswaks (Fall).*
- ANES 891 Roles of DNP Adv Nurse Anesthesia Practice IV** *Credit: 1 (1-0)* This course is one of a series of four providing a comprehensive in-depth exploration of advanced nursing practice. This course focuses on technological, economical, interdisciplinary and emerging issues of advanced practice nursing to guide role implementation as it relates to advanced practice nursing and nurse anesthesia. *Mode of delivery: Didactic. Offered: Spring. Instructor of Record: Jill Oswaks (Spring).*
- BIOE 712 Principles of Epidemiology** *Credit: 3 (3-0)* This course offers the basic principles of epidemiology. *Mode of delivery: Didactic Online. Offered: Fall. Instructor of Record: Patricia Speck (Fall).*
- FNP 800 Advanced Family Nursing I** *Credit: 4 (4-0)* This course is the first of two advanced practice nursing courses focusing on specialization, expansion, and advancement of research based knowledge and skills related to the advanced practice of nursing in primary care. Emphasis is on the development of a knowledge base necessary for clinical decision-making and the beginning definition of a model of practice with the family as the unit of service. *Mode of delivery: Didactic Hybrid. Pre-Requisites: PATH 605 Advanced Pathology, PHAR 830 Advanced Pharmacology, and NSG 824 Advanced Health Assessment and Diagnosis Co-Requisites: FNP 800 Advanced Family Clinical Practice I Offered: Fall. Instructor of Record: Jacqueline Burchum (Fall).*

- FNP 801 *Advanced Family Clinical Practice I* Credit: 4 (0-4)** This is the first in a series of advanced practice nursing courses designed to provide student experiences in the practice setting. Emphasis is on defining a nursing practice model with the family as the unit of service. The focus ranges from health promotion and disease/injury prevention to diagnosis and management of selected acute and chronic problems that commonly occur across the lifespan. *Mode of delivery:* Clinical. *Pre-Requisites:* PATH 605 Advanced Pathology, PHAR 830 Advanced Pharmacology, and NSG 824 Advanced Health Assessment and Diagnosis *Co-Requisites:* FNP 800 Advanced Family Clinical Practice I *Offered:* Fall. *Instructor of Record:* Dona Clarin (Fall).
- FNP 802 *Advanced Family Nursing II* Credit: 4 (4-0)** This course is the second of two advanced practice nursing courses focusing on specialization, expansion, and advancement of research-based knowledge and skills related functioning as an advanced practice nurse in a primary care setting. Emphasis is on the continuing development of a knowledge base necessary for clinical decision-making and the beginning refinements of a model of practice with the family as the unit of service. *Mode of delivery:* Didactic Online. *Pre-Requisites:* PATH 605 Advanced Pathology, PHAR 830 Advanced Pharmacology, and NSG 824 Advanced Health Assessment and Diagnosis *Co-Requisites:* FNP 803 Advanced Family Clinical Practice II *Offered:* Spring. *Instructor of Record:* Jacqueline Burchum (Spring).
- FNP 803 *Section 001 Advanced Family Clinical Practice II* Credit: 2-4 (0-[2-4])** This is the second in a series of advanced practice nursing courses focusing on development of the advanced practice knowledge and skills required to provide primary care services to families. This clinical rotation includes management of common problems of children, common gynecological problems of women and selected chronic and self-limiting diseases of adults. Emphasis is on the continuing development and use of a knowledge base necessary for clinical decision making (based on critical thinking and diagnostic reasoning). Limited to 8 students. *Mode of delivery:* Clinical. *Pre-Requisites:* PATH 605 Advanced Pathology, PHAR 830 Advanced Pharmacology, and NSG 824 Advanced Health Assessment and Diagnosis *Co-Requisites:* Advanced Family Nursing II *Offered:* Spring.
- FNP 803 *Section 002 Advanced Family Clinical Practice II* Credit: 2-4 (0-[2-4])** This is the second in a series of advanced practice nursing courses focusing on development of the advanced practice knowledge and skills required to provide primary care services to families. This clinical rotation includes management of common problems of children, common gynecological problems of women and selected chronic and self-limiting diseases of adults. Emphasis is on the continuing development and use of a knowledge base necessary for clinical decision making (based on critical thinking and diagnostic reasoning). Limited to 8 students. *Mode of delivery:* Clinical. *Pre-Requisites:* PATH 605 Advanced Pathology, PHAR 830 Advanced Pharmacology, and NSG 824 Advanced Health Assessment and Diagnosis *Co-Requisites:* Advanced Family Nursing II *Offered:* Spring.
- FNP 803 *Section 003 Advanced Family Clinical Practice II* Credit: 2-4 (0-[2-4])** This is the second in a series of advanced practice nursing courses focusing on development of the advanced practice knowledge and skills required to provide primary care services to families. This clinical rotation includes management of common problems of children, common gynecological problems of women and selected chronic and self-limiting diseases of adults. Emphasis is on the continuing development and use of a knowledge base necessary for clinical decision making (based on critical thinking and diagnostic reasoning). Limited to 8 students. *Mode of delivery:* Clinical. *Pre-Requisites:* PATH 605 Advanced Pathology, PHAR 830 Advanced Pharmacology, and NSG 824 Advanced Health Assessment and Diagnosis *Co-Requisites:* Advanced Family Nursing II *Offered:* Spring.

- FNP 803** **Section 004 Advanced Family Clinical Practice II** *Credit: 2-4 (0-[2-4])* This is the second in a series of advanced practice nursing courses focusing on development of the advanced practice knowledge and skills required to provide primary care services to families. This clinical rotation includes management of common problems of children, common gynecological problems of women and selected chronic and self-limiting diseases of adults. Emphasis is on the continuing development and use of a knowledge base necessary for clinical decision making (based on critical thinking and diagnostic reasoning). Limited to 8 students. *Mode of delivery:* Clinical. *Pre-Requisites:* PATH 605 Advanced Pathology, PHAR 830 Advanced Pharmacology, and NSG 824 Advanced Health Assessment and Diagnosis *Co-Requisites:* Advanced Family Nursing II *Offered:* Spring.
- FNP 804** **Section 001 Advanced Practice Practicum** *Credit: 4 (0-4)* The practicum experience focuses on the refined development of role preparation as a Family Nurse Practitioner in a primary care setting. The practicum provides an immersion experience under the guidance and direction of an experienced practitioner. The Family Nurse Practitioner role is actualized through study and practice in the clinical discipline. Limited to 8 students. *Mode of delivery:* Clinical. *Pre-Requisites:* FNP 801 Advanced Family Clinical Practice I, FNP 803 Advanced Family Clinical Practicum II *Offered:* Summer.
- FNP 804** **Section 002 Advanced Practice Practicum** *Credit: 4 (0-4)* The practicum experience focuses on the refined development of role preparation as a Family Nurse Practitioner in a primary care setting. The practicum provides an immersion experience under the guidance and direction of an experienced practitioner. The Family Nurse Practitioner role is actualized through study and practice in the clinical discipline. Limited to 8 students. *Mode of delivery:* Clinical. *Pre-Requisites:* FNP 801 Advanced Family Clinical Practice I, FNP 803 Advanced Family Clinical Practicum II *Offered:* Summer.
- FNP 804** **Section 003 Advanced Practice Practicum** *Credit: 4 (0-4)* The practicum experience focuses on the refined development of role preparation as a Family Nurse Practitioner in a primary care setting. The practicum provides an immersion experience under the guidance and direction of an experienced practitioner. The Family Nurse Practitioner role is actualized through study and practice in the clinical discipline. Limited to 8 students. *Mode of delivery:* Clinical. *Pre-Requisites:* FNP 801 Advanced Family Clinical Practice I, FNP 803 Advanced Family Clinical Practicum II *Offered:* Summer.
- FNP 804** **Section 004 Advanced Practice Practicum** *Credit: 4 (0-4)* The practicum experience focuses on the refined development of role preparation as a Family Nurse Practitioner in a primary care setting. The practicum provides an immersion experience under the guidance and direction of an experienced practitioner. The Family Nurse Practitioner role is actualized through study and practice in the clinical discipline. Limited to 8 students. *Mode of delivery:* Clinical. *Pre-Requisites:* FNP 801 Advanced Family Clinical Practice I, FNP 803 Advanced Family Clinical Practicum II *Offered:* Summer.
- FNP 805** **Advanced Practice Specialty** *Credit: 4 (2-2)* This course focuses on the Family Nurse Practitioner as an independent clinician providing primary care across the lifespan diverse settings. Students will facilitate care across settings and care organizations with the focus on enhancing optimal patient outcomes through improving communication and care links within the healthcare system. Clinical experiences are based on Faculty assessment of student needs to meet program outcomes. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Fall. *Instructor of Record:* Irma Jordan (Fall).

- HOPR 851 Section 001 Leadership & Health Policy** *Credit: 3 (3-0)* This course is designed to expand the learner's knowledge of leadership and health policy. The first component is designed to critically examine leadership concepts and theories in relation to advanced nursing practice in current and emerging healthcare delivery systems. Mechanisms for communication, asserting power and influence and conflict resolution techniques will be discussed. The second component is designed to provide an understanding of the forces involved in the formulation and implementation of healthcare policy and the role Doctor of Nursing Practice can play in leading the development and implementation of such policy. The course examines the characteristics of healthcare policy and politics, the stages in policy making and the key role governmental, public groups and individuals play in policy making. Limited to 15 students. *Mode of delivery:* Didactic Online. *Offered:* Fall, Spring, Summer.
- HOPR 851 Section 002 Leadership & Health Policy** *Credit: 3 (3-0)* This course is designed to expand the learner's knowledge of leadership and health policy. The first component is designed to critically examine leadership concepts and theories in relation to advanced nursing practice in current and emerging healthcare delivery systems. Mechanisms for communication, asserting power and influence and conflict resolution techniques will be discussed. The second component is designed to provide an understanding of the forces involved in the formulation and implementation of healthcare policy and the role Doctor of Nursing Practice can play in leading the development and implementation of such policy. The course examines the characteristics of healthcare policy and politics, the stages in policy making and the key role governmental, public groups and individuals play in policy making. Limited to 15 students. *Mode of delivery:* Didactic Online. *Offered:* Fall, Spring, Summer.
- HOPR 851 Section 003 Leadership & Health Policy** *Credit: 3 (3-0)* This course is designed to expand the learner's knowledge of leadership and health policy. The first component is designed to critically examine leadership concepts and theories in relation to advanced nursing practice in current and emerging healthcare delivery systems. Mechanisms for communication, asserting power and influence and conflict resolution techniques will be discussed. The second component is designed to provide an understanding of the forces involved in the formulation and implementation of healthcare policy and the role Doctor of Nursing Practice can play in leading the development and implementation of such policy. The course examines the characteristics of healthcare policy and politics, the stages in policy making and the key role governmental, public groups and individuals play in policy making. Limited to 15 students. *Mode of delivery:* Didactic Online. *Offered:* Fall, Spring, Summer.
- HOPR 877 Health Care Economics** *Credit: 3 (3-0)* This course advances the learner's knowledge of the economics of health and healthcare. Students critically examine the theories and concepts of economics as they apply to the healthcare market and the financing and delivery of personal healthcare in the United States. Selected international systems of financing and delivering healthcare are reviewed as a point of comparison. Particular attention is paid to the impact health economics has on patients, delivery systems, providers of care. Students critically analyze the influence of economics on the practice, design and reform of healthcare in the United States and the role health providers have in structuring and revising the policies for each. *Mode of delivery:* Didactic. *Offered:* Fall. *Instructor of Record:* Carol Lockhart (Fall).
- NNP 818 Neonatal Nursing I: Pathophysiology & Management** *Credit: 4 (4-0)* This is the first of two courses focusing on specialization, expansion, and advancement of research-based knowledge and skills related to the advanced practice of nursing in neonatal care. Emphasis is on the development of a knowledge base necessary for clinical decision-making and the definition of a model of practice with the neonate and the family as the unit of service. *Mode of delivery:* Didactic Online. *Offered:* Spring.

- NNP 826 Neonatal Assessment** *Credit: 3 (2-1)* This course focuses on comprehensive assessment and clinical management of the normal and low risk newborn that is the foundation for clinical decision making required by the NNP advanced practice role. The theoretical base for assessment is emphasized at the beginning of the course. Clinical experience provides the student with opportunities to develop neonatal assessment skills, manage the term and low-risk neonate under supervision of the NNP, and provide discharge teaching for the parents. *Mode of delivery: Didactic and clinical Hybrid. Offered: Spring.*
- NNP 828 Neonatal Nursing II: Pathophysiology & Management** *Credit: 4 (4-0)* This is the second course focusing on specialization, expansion, and advancement of research-based knowledge and skills related to the advanced, practice of nursing in neonatal care. Emphasis is on the continued development of a knowledge base necessary for clinical decision-making and the definition of a model of practice with the neonate and the family as the unit of service. *Mode of delivery: Didactic Online. Offered: Fall (not currently offered).*
- NNP 829 Neonatal Nursing Birth through 2 Years of Age** *Credit: 2 (2-0)* This course focuses on the healthcare of neonates and infants through 2 years of age. It is designed to assist students in the use of critical thinking to foster health promotion, primary prevention of illness and injury, and management of common medical conditions of newborn and infant health, especially as they relate to care of infants who have received care in a neonatal intensive care unit. The course is designed to lay the foundational knowledge for the clinical course of the same name. *Mode of delivery: Didactic Online. Offered: (not currently offered).*
- NNP 830 Clinical - Neonatal Nursing Birth through 2 Years of Age** *Credit: 2 (0-2)* This course focuses on the healthcare of neonates and infants through 2 years of age. It is designed to assist students in the use of critical thinking to foster health promotion, primary prevention of illness and injury, and management of common medical conditions of newborn and infant health, especially as they relate to care of infants who have received care in a neonatal intensive care unit. *Mode of delivery: Clinical. Offered: (not currently offered).*
- NNP 850 Clinical Practicum** *Credit: 4 (0-4)* The practicum experience focuses on the refined development of role preparation as a Neonatal Nurse Practitioner in a neonatal intensive care setting. It will provide and in- depth practical experience under the guidance and direction of an experienced practitioner. Use of preceptors in clinical practice will be utilized. The practice area will provide opportunity for enhancing the student's area of clinical expertise in the neonatal intensive care setting and provide the climate for role integration. Analysis of the role is actualized through study and practice in the clinical discipline. *Mode of delivery: Clinical. Offered: (not currently offered).*
- NSG 613 Interviewing and Counseling** *Credit: 2 (2-0)* This course focuses on increasing the knowledge and skills in communication that are essential to effective helping in the multiple roles of advanced nursing practice. Content includes major communication theories and research, the establishment and maintenance of effective interpersonal relationships, and counseling and interviewing strategies. Students participate in experiential exercises using the presented strategies. *Mode of delivery: Didactic Online. Offered: (not currently offered).*
- NSG 800 Section 001 Biostatistics and Epidemiology for Clinical Practice** *Credit: 4 (4-0)* This course focuses on concepts and methods in biostatistics and epidemiology. Application and interpretation of descriptive and inferential statistical tests used in epidemiological and clinical studies are emphasized Critical appraisal of published epidemiological and clinical studies and relevance to advanced practice nursing is examined. Limited to 25 students. *Mode of delivery: Didactic Online. Offered: Fall, Spring.*
- NSG 800 Section 002 Biostatistics and Epidemiology for Clinical Practice** *Credit: 4 (4-0)* This course focuses on concepts and methods in biostatistics and epidemiology. Application and interpretation of descriptive and inferential statistical tests used in epidemiological and clinical studies are emphasized Critical appraisal of published epidemiological and clinical studies and relevance to advanced practice nursing is examined. Limited to 25 students. *Mode of delivery: Didactic Online. Offered: Fall, Spring.*

- NSG 814 Biostatistics** *Credit: 3 (3-0)* This course introduces and applies biostatistical concepts important to advanced nursing practice and research. *Mode of delivery:* Didactic Online. *Offered:* Fall, Summer (not currently offered).
- NSG 819 Evaluation of Practice** *Credit: 4 (4-0)* This course explores various methodologies to critically evaluate clinical practice. Students develop proficiency in a) translating research to clinical practice, b) applying improvement science for better patient, performance, and organizational outcomes, and c) designing evaluation plans specific to their practice interest for the ultimate purpose of creating and sustaining changes at the care delivery, organizational, and policy levels. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Margaret Hartig (Fall).
- NSG 824 Section 001 Advanced Health Assessment and Diagnosis** *Credit: 3 (2-1)* Advanced Health Assessment builds on the assessment skills learned in basic health assessment. The course design facilitates development and application of needed knowledge through skill acquisition for primary and acute care settings. Emphasis is placed on recognition of signs and symptoms across the life-span associated with common physical and emotional health problems, psychosocial and cultural variations, differentiation between normal and pathological findings, and critical think necessary for clinical diagnostic reasoning. Limited to 25 students. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Spring.
- NSG 824 Section 002 Advanced Health Assessment and Diagnosis** *Credit: 3 (2-1)* Advanced Health Assessment builds on the assessment skills learned in basic health assessment. The course design facilitates development and application of needed knowledge through skill acquisition for primary and acute care settings. Emphasis is placed on recognition of signs and symptoms across the life-span associated with common physical and emotional health problems, psychosocial and cultural variations, differentiation between normal and pathological findings, and critical think necessary for clinical diagnostic reasoning. Limited to 25 students. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Spring.
- NSG 824 Section 003 Advanced Health Assessment and Diagnosis** *Credit: 3 (2-1)* Advanced Health Assessment builds on the assessment skills learned in basic health assessment. The course design facilitates development and application of needed knowledge through skill acquisition for primary and acute care settings. Emphasis is placed on recognition of signs and symptoms across the life-span associated with common physical and emotional health problems, psychosocial and cultural variations, differentiation between normal and pathological findings, and critical think necessary for clinical diagnostic reasoning. Limited to 25 students. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Spring.
- NSG 824 Section 004 Advanced Health Assessment and Diagnosis** *Credit: 3 (2-1)* Advanced Health Assessment builds on the assessment skills learned in basic health assessment. The course design facilitates development and application of needed knowledge through skill acquisition for primary and acute care settings. Emphasis is placed on recognition of signs and symptoms across the life-span associated with common physical and emotional health problems, psychosocial and cultural variations, differentiation between normal and pathological findings, and critical think necessary for clinical diagnostic reasoning. Limited to 25 students. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Spring.
- NSG 826 Methods in Epidemiology** *Credit: 3 (3-0)* This course introduces the student to the most common analytic methods in epidemiology. Students will learn how to design epidemiologic studies, to choose appropriate research designs, and to utilize common statistical tests. Emphasis will be placed on case control studies, cohort studies, and the use of multivariate and logistic regression. *Mode of delivery:* Didactic Online. *Offered:* Spring (not currently offered).

- NSG 837** **Assessment Strategies in Psychiatric/Mental Healthcare** *Credit: 3 (3-0)* This course fosters development of the knowledge and skills for assessment of individuals, families and groups to promote mental health and detect complex psychiatric-mental health problems across the lifespan. The course builds on the student's past nursing knowledge and experiences, expanding the scope of nursing practice to those at risk or in need of psychiatric-mental healthcare. Focus is on recognition and assessment of mental health and diagnosing of mental disorders based on DSM- IV-TR criteria, psychometrics, evidence-based guidelines, theoretical literature, and scope and standards of advanced psychiatric/mental health nursing. Theories underlying the practice of consultation as an indirect-care modality of the psychiatric nursing specialty are introduced. Students master documentation methods that meet the legal-ethical requirements for care of patients with mental health problems. *Mode of delivery:* Didactic Online. *Offered:* Spring. *Instructor of Record:* Stephanie Plummer (Spring).
- NSG 840** **Special Topics** *Credit: 2-4* Directed readings or special course in topics of current interest. *Mode of delivery:* Didactic. *Offered:* Fall, Spring.
- NSG 850** **Sexual Assault Forensic Examination** *Credit: 5 (5-0)* This course presents core medical legal concepts, practice standards, and emerging issues in the holistic care of sexual assault victims across the lifespan. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall, Spring. *Instructor of Record:* Patricia Speck (Spring).
- NSG 851** **Medical Legal Death Investigation** *Credit: 3 (3-0)* This course prepares the student to collaborate with healthcare, law enforcement and criminal justice professionals in the investigation to determine mechanism and cause of death. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Joyce Williams (Fall).
- NSG 852** **Doctor of Nursing Practice: Professional Role Development** *Credit: 2 (2-0)* Professional Role Development. The purpose of this course is to facilitate transition into the advanced practice nursing role. Students will examine the development and maintenance of practice, including certification, marketing, contract negotiations, and practice management. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Michael Carter (Fall).
- NSG 855** **Doctor of Nursing Practice: Advanced Practice Role Development** *Credit: 2 (2-0)* This course facilitates transition into the advanced practice nursing role in the context of the Doctor of Nursing Practice. Professional standards, practice management, and the requirements and regulations of the role are examined. *Mode of delivery:* Didactic Online. *Offered:* Fall (not currently offered).
- NSG 860** **Methods for Evaluation of Practice** *Credit: 3 (3-0)* This course provides the foundation and methods for evaluating advanced clinical practice. Critical appraisal, synthesis of the literature, and quantitative and qualitative evaluation methods are emphasized. Healthcare processes are examined within a framework of access, quality and cost. Limited to 15 students. *Mode of delivery:* Didactic. *Pre-Requisites:* Pre-requisite or co-requisite: NSG 800 Biostatistics and Epidemiology for Clinical Practice *Offered:* Spring, Summer. *Instructor of Record:* Lisa Rinsdale (Spring).
- NSG 869** **Integrated Model of Forensic Nursing** *Credit: 3 (3-0)* This course presents core concepts, standards of practice, and emerging issues of forensic nursing in a holistic model that integrates concepts of forensic science, public health and psychiatric mental health in an historical, political, and social context. Content will include analysis of the roles, advanced nursing skills, ethical decision-making, and cultural competence required of forensic nurses caring for victims of injury and/or perpetrators of crime across the life span. *Mode of delivery:* Didactic Online. *Offered:* (not currently offered).

- NSG 910** **Theory and Philosophy of Nursing** *Credit: 4 (4-0)* This course focuses upon the development of nursing science and epistemology in the western world. Philosophical approaches to the development and advancement of nursing science are examined in the context of current and historical periods. Theories and concepts from nursing and other disciplines are critiqued. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Mona Wicks (Fall).
- NSG 911** **Philosophy of Science** *Credit: 3 (3-0)* A course focusing upon development of science in the Western world and epistemology. Ways of knowing and ways of thinking as they relate to the advancement of science will be covered. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Kimberly Robitaille (Fall).
- NSG 916** **Section 001 Concept and Theory Analysis** *Credit: 3 (3-0)* This course focuses on the process of concept analysis, and its application to clinical practice. Nursing theories, and concepts from nursing theories and clinical practice will be analyzed and critiqued. Limited to 15 students. *Mode of delivery:* Didactic Online. *Offered:* Spring.
- NSG 916** **Section 002 Concept and Theory Analysis** *Credit: 3 (3-0)* This course focuses on the process of concept analysis, and its application to clinical practice. Nursing theories, and concepts from nursing theories and clinical practice will be analyzed and critiqued. Limited to 15 students. *Mode of delivery:* Didactic Online. *Offered:* Spring.
- NSG 916** **Section 003 Concept and Theory Analysis** *Credit: 3 (3-0)* This course focuses on the process of concept analysis, and its application to clinical practice. Nursing theories, and concepts from nursing theories and clinical practice will be analyzed and critiqued. Limited to 15 students. *Mode of delivery:* Didactic Online. *Offered:* Spring.
- NSG 916** **Section 004 Concept and Theory Analysis** *Credit: 3 (3-0)* This course focuses on the process of concept analysis, and its application to clinical practice. Nursing theories, and concepts from nursing theories and clinical practice will be analyzed and critiqued. Limited to 15 students. *Mode of delivery:* Didactic Online. *Offered:* Spring.
- NSG 921** **Psychiatric/Mental Health (PMH) Seminar** *Credit: 1 (1-0)* This course focuses on current research and issues in mental healthcare for the advanced practice psychiatric nurse. Literature that addresses psychiatric care is used to keep providers abreast of cutting edge information and treatment for mental health disorders in a variety of settings. Integration of mental healthcare into selected primary care conditions and diagnoses is addressed. *Mode of delivery:* Didactic Online. *Offered:* Spring. *Instructor of Record:* Irma Jordan (Spring).
- NSG 926** **Section 001 Resident Practicum: Adult-Gero Acute Care** *Credit: 3-6 (0 [3-6])* This course is a synthesis practicum with a practitioner-mentor in the student's area of advanced practice. *Mode of delivery:* Clinical. May be repeated once up to 6 credit hours *Offered:* Fall, Spring.
- NSG 926** **Section 002 Resident Practicum: Family Nurse Practitioner** *Credit: 3-6 (0 [3-6])* This course is a synthesis practicum with a practitioner-mentor in the student's area of advanced practice. *Mode of delivery:* Clinical. May be repeated once up to 6 credit hours *Offered:* Fall, Spring.
- NSG 926** **Section 003 Resident Practicum: Psychiatric Mental Health** *Credit: 3-6 (0 [3-6])* This course is a synthesis practicum with a practitioner-mentor in the student's area of advanced practice. *Mode of delivery:* Clinical. May be repeated once up to 6 credit hours *Offered:* Fall, Spring.
- NSG 926** **Section 004 Resident Practicum: Forensic Nursing** *Credit: 3-6 (0 [3-6])* This course is a synthesis practicum with a practitioner-mentor in the student's area of advanced practice. *Mode of delivery:* Clinical. May be repeated once up to 6 credit hours *Offered:* Fall, Spring.
- NSG 926** **Section 005 Resident Practicum: Nurse Anesthesia** *Credit: 3-6 (0 [3-6])* This course is a synthesis practicum with a practitioner-mentor in the student's area of advanced practice. *Mode of delivery:* Clinical. May be repeated once up to 6 credit hours *Offered:* Fall, Spring.

- NSG 930 Biological Treatments for Psychiatric Disorders** *Credit: 3 (3-0)* Current molecular, developmental and environmental perspectives are examined considering inherited and acquired vulnerabilities to mental illness. Disruptions leading to mental illness are studied from a broad overview of balanced and functional brain anatomy and physiology. Psychopharmacological and other biological therapies for mental illnesses based on current science and practice standards are detailed with emphasis on optimal outcomes and primary, secondary and tertiary prevention. The responsibilities and contributions of the advanced practice nurse as expert clinician are emphasized. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall. *Instructor of Record:* Stephanie Plummer (Fall).
- NSG 946 Residency Project** *Credit: 3 (3-0)* DNP students evaluate a practice issue identified in their residency site to improve practice for individuals, groups, or communities. Students disseminate project results. *Mode of delivery:* Didactic Online. *Offered:* Fall, Spring. *Instructor of Record:* Irma Jordan (Spring).
- NSG 960 Directed Study** *Credit: 1-6* A course designed to provide the doctoral student with the opportunity to undertake additional guided study, research, and/or practice experience in an area of the student's choice under Faculty supervision. The student will develop course outcomes in consultation with Faculty. *Mode of delivery:* Didactic, Clinical, and/or Lab Hybrid. May be repeated once up to 12 credit hours *Offered:* Fall, Spring, Summer. *Instructor of Record:* Mona Wicks (Fall); J. Carolyn Graff (Spring).
- PATH 605 Section 001 Advanced Pathology** *Credit: 3 (3-0)* Study of the etiologies and processes of human biological responses to actual and potential injury in contrast to normal. The focus is on the underlying physiological and pathophysiological mechanisms of disease states, and the scientific rationale for seeking, selecting, and interpreting physiological data. Age specific considerations are presented. Limited to 25 students. *Mode of delivery:* Didactic Online. *Offered:* Spring.
- PATH 605 Section 002 Advanced Pathology** *Credit: 3 (3-0)* Study of the etiologies and processes of human biological responses to actual and potential injury in contrast to normal. The focus is on the underlying physiological and pathophysiological mechanisms of disease states, and the scientific rationale for seeking, selecting, and interpreting physiological data. Age specific considerations are presented. Limited to 25 students. *Mode of delivery:* Didactic Online. *Offered:* Spring.
- PATH 605 Section 003 Advanced Pathology** *Credit: 3 (3-0)* Study of the etiologies and processes of human biological responses to actual and potential injury in contrast to normal. The focus is on the underlying physiological and pathophysiological mechanisms of disease states, and the scientific rationale for seeking, selecting, and interpreting physiological data. Age specific considerations are presented. Limited to 30 students. *Mode of delivery:* Didactic Online. *Offered:* Spring.
- PHAR 825 Pharmacology II: Neonatal NP** *Credit: 3 (3-0)* This course builds on Pharmacology I and provides additional knowledge basic to the advanced practice of neonatal nursing. Content specific to advanced pharmacology within specialty areas will be presented in modular format. *Mode of delivery:* Didactic Online. *Pre-Requisites:* PHAR 830 *Offered:* Spring.
- PHAR 830 Section 001 Advanced Pharmacology** *Credit: 3 (3-0)* This course provides an overview of the major drug classifications used by advanced practice nurses. Core content focuses on pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, adverse effects, drug and food interactions, safety concerns, and special considerations across the lifespan. Limited to 25 students. *Mode of delivery:* Didactic Online. *Offered:* Spring.
- PHAR 830 Section 002 Advanced Pharmacology** *Credit: 3 (3-0)* This course provides an overview of the major drug classifications used by advanced practice nurses. Core content focuses on pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, adverse effects, drug and food interactions, safety concerns, and special considerations across the lifespan. Limited to 25 students. *Mode of delivery:* Didactic Online. *Offered:* Spring.

- PHAR 830 Section 003 Advanced Pharmacology** *Credit: 3 (3-0)* This course provides an overview of the major drug classifications used by advanced practice nurses. Core content focuses on pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, adverse effects, drug and food interactions, safety concerns, and special considerations across the lifespan. Limited to 30 students. *Mode of delivery: Didactic Online. Offered: Spring.*
- PHAR 831 DNP Pharmacology I: Anesthesia** *Credit: 4 (4-0)* This course provides an in-depth study of general pharmacology for drugs currently used in human medicine. This course focuses on the impact of drugs on anesthesia practice. *Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Dwayne Accardo (Fall).*
- PHAR 832 Pharmacology II: Anesthesia** *Credit: 4 (4-0)* This course provides an in-depth study of the pharmacology of anesthetic agents and drugs currently used in human medicine. This course focuses on the impact of drugs on anesthesia practice. *Mode of delivery: Didactic. Offered: Fall. Instructor of Record: Dwayne Accardo (Spring).*
- PMH 800 Individual, Group and Family Therapy** *Credit: 3 (3-0)* This course addresses advanced practice psychiatric mental health processes and strategies. Foci of the course are the study of human life processes and the varying patterns that develop in the physical, behavioral, mental, emotional, cultural and spiritual aspects of persons, families, groups and communities across the lifespan. Philosophical, historical and theoretical contributions to the understanding of individual growth and development within family and communities are emphasized. Examination of inherited and acquired vulnerability to mental health problems and illnesses is emphasized. There is a delineation of interventions and techniques based on the psychiatric assessment and specific selected theoretical perspectives. Health promotion, disease prevention and expansion of the consultation role in advanced practice psychiatric mental health nursing is examined. Reflective practice theories are introduced. *Mode of delivery: Didactic Hybrid. Offered: Spring. Instructor of Record: Stephanie Plummer (Spring).*
- PMH 801 Section 001 Clinical Individual, Group and Family Therapy** *Credit: 2 (0-2)* Therapeutic interventions based on bio- psycho-social assessment and specific selected theoretical perspectives are provided for individuals, families, and groups. Health promotion, disease prevention and expansion of the consultation role in advanced practice psychiatric mental health nursing are incorporated. Clinical experience includes medication prescribing and monitoring. Reflective practice strategies are introduced. Limited to 8 students. *Mode of delivery: Clinical. Offered: Spring.*
- PMH 801 Section 002 Clinical Individual, Group and Family Therapy** *Credit: 2 (0-2)* Therapeutic interventions based on bio- psycho-social assessment and specific selected theoretical perspectives are provided for individuals, families, and groups. Health promotion, disease prevention and expansion of the consultation role in advanced practice psychiatric mental health nursing are incorporated. Clinical experience includes medication prescribing and monitoring. Reflective practice strategies are introduced. Limited to 8 students. *Mode of delivery: Clinical. Offered: Spring.*
- PMH 802 Psychiatric Mental Health Disorders** *Credit: 3 (3-0)* The course focus is theory-based advanced psychiatric nursing practice with individuals, families, groups, and communities with complex psychiatric mental health needs. Theory underlying the practice of consultation as an indirect-care modality of the psychiatric nursing specialty is included. Factors influencing consultation consider primary, secondary and tertiary prevention are examined. Examination of practice, including clinical supervision, is emphasized as a function of the advanced practice psychiatric mental health role. *Mode of delivery: Didactic Hybrid. Offered: Fall. Instructor of Record: Kathy Gaffney (Fall).*
- PMH 803 Clinical Psychiatric Mental Health Disorders** *Credit: 2 (0-2)* This course is the clinical component of theory-based advanced psychiatric nursing practice with individuals, families, groups, and communities with complex mental health needs. Consultation liaison, case-management, and clinical supervision are included. Clinical experiences are in a variety of settings with clients across the lifespan. *Mode of delivery: Clinical. Offered: Fall. Instructor of Record: Irma Jordan (Fall).*

- PMH 804** **Child and Adolescent Mental Healthcare APN** *Credit: 3 (3-0)* The course explores APN knowledge, skills and experience to care for children and their families who present with both common and complex psychiatric –mental health problems. The focus of the course is the theoretical and foundational knowledge for diagnosis and treatment, including psychotherapy and psychopharmacology, for common and complex child & adolescent psychiatric problems. Mental health promotion and illness prevention is emphasized. *Mode of delivery:* Didactic Hybrid. *Offered:* Fall, Spring. *Instructor of Record:* Kathy Gaffney (Spring).
- PMH 805** **Clinical: Child and Adolescent Mental Healthcare APN:** *Credit: 2 (0-2)* Therapeutic interventions based on bio-psycho-social assessment and selected theoretical perspectives are provided for children and adolescents within the context of the family/support group. Health promotion, disease prevention and expansion of the consultation role in advanced practice psychiatric mental health nursing for children and adolescents are incorporated. Clinical experience includes psychotherapy, as well as medication prescribing and monitoring. *Mode of delivery:* Clinical. *Offered:* Spring. *Instructor of Record:* Kathy Gaffney (Spring).
- PNP 801** **Primary Care of Children** *Credit: 2 (2-0)* The course is designed to provide a theoretical foundation for defining a model of advanced pediatric nursing practice in primary care. Care of the child is viewed in terms of primary prevention and assisting the child and family to an optimal level of wellness. The course utilizes an age-related assessment of expected stages and tasks, in meeting the needs of specific age groups. Emphasis is placed on anticipatory guidance in each developmental stage and the role of the advanced practice nurse in promoting a healthy life style. *Mode of delivery:* Didactic Online. *Offered:* Fall. *Instructor of Record:* Susan Patton (Fall).
- PNP 802** **Clinical: Primary Care of Children and Families** *Credit: 2-4 (0-[2-4])* This clinical course focuses on the application of developmental theory to advanced practice nursing. Course emphasis is placed on the performance of an age-related clinical assessment and the incorporation of anticipatory guidance into the primary care of children and families. *Mode of delivery:* Clinical. *Offered:* Fall, Spring. *Instructor of Record:* Susan Patton (Fall); Susan Patton (Spring).
- PNP 803** **Common Childhood Illness and Conditions** *Credit: 4 (4-0)* This course focuses on the scientific knowledge and research base necessary for advanced practice nursing with children and their families. Emphasis will be placed on the development of expert knowledge in primary care of children with common childhood illnesses and health conditions. The student will apply a variety of concepts, theories and research findings to develop a practice model that is patient centered and culturally sensitive. *Mode of delivery:* Didactic Online. *Offered:* (not currently offered).
- PNP 804** **Clinical: Common Childhood Illness and Conditions** *Credit: 2-4 (0-[2-4])* Clinical course focuses on the application of scientific knowledge and evidence base necessary for advanced practice nursing with children and their families. Course emphasis is placed on prevention and treatment of common childhood illnesses using a current evidence base. Students will develop an age related practice model that is both patient-centered and culturally sensitive. *Mode of delivery:* Clinical. *Offered:* (not currently offered).
- PNP 805** **Pediatric Chronic Conditions** *Credit: 4 (4-0)* This course focuses on the scientific knowledge and research base necessary for advanced practice nursing with children and their families. Emphasis will be placed on the development of expert knowledge in the care of children with chronic illness and disabling conditions. Students will use a variety of concepts, theories and research findings to develop a practice model that is both patient-centered and culturally sensitive. *Mode of delivery:* Didactic Online. *Offered:* Spring. *Instructor of Record:* Lisa Rinsdale (Spring).

PNP 806 Clinical: Pediatric Chronic Conditions *Credit: 2-4 (0-[2-4])* This course focuses on the scientific knowledge and current evidence necessary for advanced practice nursing with children and their families. Emphasis will be placed on the development of expert care of children with chronic illness and disabling conditions and will use a variety of concepts, theories and research findings to develop a practice model that is patient centered and cultural sensitive. *Mode of delivery:* Clinical. *Offered:* Spring. *Instructor of Record:* Lisa Rinsdale (Spring).

Course Descriptions - DNP Nursing Advance Practice Selectives

NOTE: All Advanced Practice Selectives (NAPS) courses are offered as directed study under advisor direction in the 2-year DNP program of study. NAPS courses may be repeated and offered any term according to the student's approved plan of study.

NAPS 811 Women's Health *Credit: 4 (2-2)* The focus of this course is on gender-specific healthcare for women across the life span and from diverse populations. Theoretical and research literature will be used to examine factors that predispose women to specific health needs, health problems, and healthcare outcomes. Current and future healthcare will be examined in terms of legal, ethical, political and health policy issues. Health promotion, disease prevention, and healthcare interventions will be examined in order to formulate and test advanced practice standards in general healthcare of women. For persons with selected backgrounds, this is one of a series of three courses that, with a residency in woman's health, may be used to meet the requirements for certification as a Woman's Health Nurse Practitioner. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).

NAPS 812 Women's Reproductive Health *Credit: 4 (2-2)* Reproductive healthcare of women across the life span and from diverse populations will be addressed. Specific emphasis will be give prior to, during, and after pregnancy. Theoretical and research literature will be used to examine factors that predispose women to specific reproductive health needs, health problems, and healthcare outcomes. Current and future healthcare will be examined in terms of legal, ethical, political and health policy issues. Health promotion, disease prevention, and healthcare interventions will be examined in order to formulate and test advanced practice standards in reproductive healthcare. For persons with selected backgrounds, this is one of a series of three courses that, with a residency in woman's health, may be used to meet the requirements for certification as a Woman's Health Nurse Practitioner (WHNP). *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).

NAPS 813 PNP I: Primary Care of Children *Credit: 4 (2-2)* This is the first in a series of three courses that prepare students for certification as a pediatric nurse practitioner. This course may also be taken with permission of the instructor for students who desire advanced clinical preparation in a select area of primary care of children. The course is designed to provide a theoretical & clinical base for defining a model of pediatric nursing practice in primary care. Care of the child is viewed in terms of primary and secondary prevention and assisting the child and family to an optimal level of wellness. Major developmental theories will be reviewed with an age-related focus on assessment of normal stages, tasks, and needs of specific age groups. Emphasis will be placed on anticipatory guidance for parents accompanying each stage, and the role of the nurse in promoting a healthy life style and developmental outcomes. Students explore developmental theories and review selected health and developmental assessment tools for use in clinical practice. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).

- NAPS 821 Gynecologic Health** *Credit: 4 (2-2)* Gynecologic healthcare of women across the life span and from diverse populations will be addressed. Theoretical and research literature will be used to examine factors that predispose women to specific gynecologic health needs, health problems, and healthcare outcomes. Current and future healthcare will be examined in terms of legal, ethical, political and health policy issues. Health promotion, disease prevention, and healthcare interventions will be examined in order to formulate and test advanced practice standards in gynecologic healthcare. For persons with selected backgrounds, this is one of a series of three courses that, with a residency in woman's health, may be used to meet the requirements for certification as a Woman's Health Nurse Practitioner (WHNP). *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).
- NAPS 822 College Health** *Credit: 4 (2-2)* The focus of this course is on the theoretical and clinical content specific to college health. Theoretical and research literature will be used to examine factors that predispose students to specific health needs, health problems and health outcomes. Current and future healthcare will be examined in terms of legal, ethical, political and health policy issues. Health promotion, disease prevention and healthcare interventions will be examined in order to formulate and test advanced practice standards in college health. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).
- NAPS 823 PNP II: Common Childhood Illness** *Credit: 4 (2-2)* This course is the second in series of three courses that prepare the student for certification as a pediatric nurse practitioner. This course may also be taken with permission of the instructor for students who desire advanced clinical preparation in a select area of common childhood illness. This course focuses on the scientific knowledge and research base necessary for advanced practice with children and their families. Emphasis will be placed on the development of expert knowledge in primary care of children with common childhood illnesses and will use a variety of concepts, theories and research findings to develop a practice model for implementation and evaluation. *Mode of delivery:* Didactic and clinical Hybrid. *Pre-Requisites:* NAPS 813 PNP I: Primary Care of Children *Offered:* (not currently offered).
- NAPS 824 Occupational Health** *Credit: 4 (2-2)* The focus of this course is on the theoretical and clinical content specific to occupational health. Theoretical and research literature will be used to examine factors that predispose employees to specific health needs, health problems and health outcomes. Current and future healthcare will be examined in terms of legal, ethical, political and health policy issues. Health promotion, disease prevention and healthcare interventions will be examined in order to formulate and test advanced practice standards in occupational health. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).
- NAPS 833 PNP III: Chronic Illness** *Credit: 4 (2-2)* This is the third in a series of three courses that prepare students for certification as a pediatric nurse practitioner. This course may also be taken with permission of the instructor for students who desire advanced clinical preparation in a select area of chronic illness. This course focuses on the scientific knowledge and research base necessary for advanced practice with children and their families. Emphasis will be placed on the development of expert knowledge in primary care of children with chronic conditions and will use a variety of concepts, theories and research findings to develop a practice model for implementation and evaluation. *Mode of delivery:* Didactic and clinical Hybrid. *Pre-Requisites:* NAPS 813 PNP I: Primary Care of Children; NAPS 823 PNP II: Common Childhood Illness *Offered:* (not currently offered).
- NAPS 843 General Practice of Anesthesia** *Credit: 4 (2-2)* This course is the first in a series of two practice selectives that focuses on the general practice of anesthesia. The course examines the effectiveness of the specialty within the practice and explores common clinical issues related to the general practice of anesthesia. Offered annually both fall and spring terms. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Fall, Spring. *Instructor of Record:* Jill Oswaks (Fall); Jill Oswaks (Spring).

- NAPS 844 Advanced General Practice of Anesthesia** *Credit: 4 (2-2)* This course is the second in a series of two practice selectives focusing on the general practice of anesthesia. This course will examine complex clinical practice issues of the general practice of anesthesia. In addition, the course will discuss the effectiveness of healthcare system policies on the current general practice of anesthesia. Offered annually both fall and, spring terms. *Mode of delivery:* Didactic and clinical Hybrid. *Pre-Requisites:* NAPS 843 General Practice of Anesthesia *Offered:* Fall, Spring. *Instructor of Record:* Jill Oswaks (Fall); Jill Oswaks (Spring).
- NAPS 848 Gerontology: Common Health Problems** *Credit: 4 (2-2)* Common health problems and functional implications in the aging process will be addressed in order to examine healthcare delivery and social implications of aging and to make recommendations for the delivery of advanced nursing practice. Theoretical and research literature will be used to address demographic, socioeconomic, cultural, family, and other conditions and their effect on older adults with selected common health problems. Secondary and tertiary disease prevention and interventions for selected common health problems will be examined in order to formulate and test advanced practice standards of care. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).
- NAPS 849 Gerontology: Frail Older Adults** *Credit: 4 (2-2)* Health problems and functional implications for frail older adults will be addressed in order to examine healthcare delivery and social implications of aging and to make recommendations for the delivery of advanced nursing practice. Theoretical and research literature will be used to address demographic, socioeconomic, cultural, family and other conditions and their effect on frail older adults in the community and in the nursing home. Health promotion, primary, secondary, and tertiary disease prevention and interventions for selected health problems of frail older adults will be examined in order to formulate and test advanced practice standards of care. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).
- NAPS 851 Gerontology:** *Credit: 4 (2-2)* Well Older Adults. Normal aging changes and functional implications of the aging process will be addressed in order to examine healthcare delivery and social implications of aging and to make recommendations for the delivery of advanced nursing practice. Theoretical and research literature will be used to address demographic, socioeconomic, cultural, family and other conditions that predispose older adults to selected health problems. Health promotion, disease prevention and interventions for selected health problems will be examined in order to formulate and test advanced practice standards of care. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).
- NAPS 852 Chronic Health Problems** *Credit: 4 (2-2)* Chronic health problems and family, social, economic and functional implications will be addressed in order to examine healthcare delivery and to make recommendations for the delivery of advanced nursing practice. Theoretical and research literature will be used to address demographic, socioeconomic, cultural, family and other conditions and their effect on persons with selected chronic health problems. Secondary and tertiary disease prevention and interventions for selected chronic health problems will be examined in order to formulate and test advanced practice standards of care. *Mode of delivery:* Didactic and clinical Hybrid. May be repeated up to 12 credit hours *Offered:* (not currently offered).
- NAPS 853 Evaluation: Psychiatric/Mental Healthcare** *Credit: 4 (2-2)* This course focuses on the theoretical and clinical content specific to a well-defined area in the delivery of psychiatric/mental healthcare. The problem area is analyzed using the research and theoretical literature, practice in the area, and other means of inquiry. Strategies for implementing and evaluating change appropriate for the area of study are reviewed for their applicability. The utility of these strategies is analyzed from multiple perspectives (economic, patient, healthcare provider, legal/ethical issues, significance, etc.). Clinical practice may occur in a variety of settings related to the area in psychiatric/mental health nursing studied. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Fall. *Instructor of Record:* Irma Jordan (Fall).

- NAPS 854 Management of Selected Psychiatric/Mental Health Problems** *Credit: 4 (2-2)* This course is designed to build on the previous knowledge and experiences of the student integrating mental health/psychiatric nursing in a selected healthcare delivery system. Content focuses on the management of selected psychiatric/mental health problems and the issues and theories related to clinical practice that influence the delivery of psychiatric/mental health nursing care. Strategies for care are further analyzed using the available standards and guidelines for practice and the research and theoretical literature. Recommendations for change in clinical practice are developed based on the analysis. Clinical practice occurs in healthcare settings providing services to clients with the selected psychiatric/mental health problems of interest. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered). *Instructor of Record:* Irma Jordan (Spring).
- NAPS 855 Cardiovascular Health in the Neonate** *Credit: 4 (2-2)* Neonatal healthcare outcomes specifically related to cardiovascular health will be addressed. Theoretical and research literature will be used to examine factors that predispose neonates to specific cardiovascular health needs and problems. Current and future healthcare delivery will be examined in terms of legal, ethical, political, and health policy issues. Health promotion, disease prevention, and healthcare interventions will be examined in order to formulate and test advanced practice standards in neonatal healthcare. This selective builds on master's preparation as a Neonatal Nurse Practitioner (NNP). *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).
- NAPS 856 Infectious Diseases in the Neonate** *Credit: 4 (2-2)* Neonatal healthcare outcomes specifically related to infectious diseases will be addressed. Theoretical and research literature will be used to examine factors that predispose neonates to specific problems related to infectious diseases. Current and future healthcare will be examined in terms of legal, ethical, political, and health policy issues. Health promotion, disease prevention, and health care interventions will be examined in order to formulate and test advanced practice standards in neonatal healthcare. This selective builds on master's preparation as a Neonatal Nurse Practitioner (NNP). *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Spring.
- NAPS 857 Risk Factors for Neonatal Health** *Credit: 4 (2-2)* Neonatal healthcare outcomes specifically related to the prenatal/perinatal period will be addressed. Theoretical and research literature will be used to examine factors that predispose neonates to specific health needs and problems. Current and future healthcare delivery will be examined in terms of legal, ethical, political, and health policy issues. Health promotion, disease prevention, and healthcare interventions will be examined in order to formulate and test advanced practice standards in neonatal healthcare. This selective builds on master's preparation as a Neonatal Nurse Practitioner (NNP). *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Spring.
- NAPS 863 Acute Care Nursing** *Credit: 4 (2-2)* The focus of this course is acute care nursing. From within this broad framework, the student will choose a focus of study that will involve the advanced practice nurse role, common clinical issues, and implementation of care standards in the practice of acute care nursing. This selective builds on the student's preparation as an advanced practice nurse. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Fall.
- NAPS 864 Public Health** *Credit: 4 (2-2)* The focus of this course is public health. From within this broad framework, the student will choose a focus of study that will involve population and/or aggregate focused nursing practice. Historical and current scientific literature will be used to determine the scope of practice, evaluation of community needs, development of appropriate interventions, and methods for evaluating the results. Legal, social, ethical, political, and health policy implications will be analyzed. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).

- NAPS 865 Assessment Management of Psychiatric/Mental Health Problems** *Credit: 4 (2-2)* This course is the first in a series that are designed for students entering the Psychiatric/Mental Health Nursing Option and develops a framework of knowledge, skills, and experience to care for individual and groups with complex psychiatric-mental health problems and promote mental health within our society. The course builds on the student's knowledge and experiences as a nurse practitioner, expanding the scope of nursing practice to those at risk or in need of psychiatric/mental health services. Clinical experiences with individuals and groups occur in primary care and/or traditional mental health settings and focus on recognition and assessment of mental disorders and mental health problems based on DSM-IV (TM) criteria, evidence-based guidelines and literature, scope and standards of advanced level psychiatric mental health nursing practice, theories of counseling and psychotherapy, and developmental theory. Students master documentation methods that meet the legal-ethical requirements of the role of the Advanced Practice Nurse- Psychiatric Mental Health in the healthcare system. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).
- NAPS 866 Management of Psychiatric Mental Health Problems** *Credit: 4 (2-2)* This course builds upon previous content in the Psychiatric/Mental Health Nursing Option to develop a framework of knowledge, skills, and experience to care for individuals and groups with complex psychiatric-mental health problems and promote mental health within our society. The focus is the conceptualization of theory based advanced psychiatric nursing practice with individuals and groups. Clinical experiences with individuals across the age continuum occur in primary care and/or traditional mental health settings, applying evidence-based guidelines using clinical judgment, scope and standards of advanced level psychiatric mental health nursing practice, theories of counseling and psychotherapy, developmental theory and pharmacological interventions. *Mode of delivery:* Didactic and clinical Hybrid. *Co-Requisites:* NAPS 865 Assessment Management of Psychiatric/Mental Health Problems *Offered:* (not currently offered).
- NAPS 867 Injury-Prevention and Treatment Applied to Individuals** *Credit: 4 (2-2)* This course focuses on the biopsychosocial effects of injury and the culturally competent methods of prevention and treatment applied to individuals, both as victims and offenders, as well as their families, across the life span. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Fall. *Instructor of Record:* Joyce Williams (Fall).
- NAPS 868 Injury-Prevention and Treatment Applied to Populations** *Credit: 4 (2-2)* This course will continue to focus on models of prevention of injury populations within the context of environment and culture. Social, cultural, economic, political, and policy components which contribute to injury of vulnerable populations across the lifespan will be systematically examined in order to generate models of intervention. On completion of the course, the student will be prepared to select the focus of research for the resident practicum and dissertation. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* Fall. *Instructor of Record:* Patricia Speck (Fall).
- NAPS 870 Acute Care Nurse Practitioner** *Credit: 4 (2-2)* The focus of this course is the care of adult clients/families frequently encountered in the critical and acute care setting by the acute care nurse practitioner. Content includes the acute care nurse practitioner role, common clinical issues, and implementation of care standards in the practice of acute care nursing. This selective builds on the student's preparation as an advanced practice nurse. *Mode of delivery:* Didactic and clinical Hybrid. *Offered:* (not currently offered).
- NAPS 871 Primary Care Nursing** *Credit: 4 (2-2)* The focus of this course is primary care nursing. From within this broad framework, the student will choose a focus of study that will involve the advanced practice nurse role, common clinical issues, and implementation of care standards in the practice of primary care nursing. This selective builds on the student's preparation as an advanced practice nurse. *Mode of delivery:* Didactic and clinical Hybrid. May be repeated up to 4 credit hours *Offered:* Fall, Spring. *Instructor of Record:* Irma Jordan (Fall); Irma Jordan (Spring).

FACULTY LIST

Accardo, Dwayne Lance, Assistant Professor, 2006; Doctor of Nursing Practice, University of Tennessee Health Science Center (2007); Master of Science in Nursing, Webster University (2001); Bachelor of Science in Nursing, University of Mississippi (1995)

Bensing, Hallie Murrey, Instructor, 2007; Master of Science in Nursing, University of Tennessee Health Science Center (2001); Bachelor of Science in Nursing, University of Tennessee, Knoxville (1986)

Burchum, Jacqueline, Associate Professor, 2005; Doctor of Nursing Science, University of Tennessee Health Science Center (2002); Master of Science in Nursing, University of Tennessee Health Science Center (1996); Bachelor of Science in Nursing, Union University (1985)

Carter, Michael A., University Distinguished Professor, 1982; Doctor of Nursing Practice, University of Tennessee Health Science Center (2009); Doctor of Nursing Science, Boston University (1979); Master of Science in Nursing, University of Arkansas (1973); Bachelor of Science in Nursing, University of Arkansas (1969)

Clarín, Dona, Assistant Professor, 2011; Master of Science in Nursing, Belmont University (2004); Doctor of Nursing Practice, Samford University, (2013)

Cox, Lisa, Assistant Professor, 2009; Doctor of Nursing Practice, University of Tennessee Health Science Center (2010)

Dycus, Paula K., Instructor, 2012; Doctor of Nursing Practice, University of Tennessee Health Science Center (2007); Master of Science in Nursing, Union University (2001); Bachelor of Science in Nursing, University of Memphis (1997)

Emerson, Stacy, Instructor, 2013; Master of Science in Nursing, Arkansas State University (1999); Doctorate in Educational Leadership, Arkansas State University (2012)

Farrell, Nancy Alise Grogan, Instructor, 2006; Master of Science in Nursing, Union University (2002); Bachelor of Science in Nursing, University of Tennessee Health Science Center (1986)

Gaffney, Kathleen, Instructor, 2007; Master of Science in Nursing, University of Pennsylvania (1992); Bachelor of Science, University of Pennsylvania (1972)

Graff, Joyce Carolyn, Professor, 2001; Doctor of Philosophy, University of Kansas (2001); Master of Science in Nursing, University of Kansas (1988); Bachelor of Science in Nursing, Medical College of Georgia (1969)

Hartig, Margaret T., Professor, 1987; Doctor of Philosophy, University of Tennessee Health Science Center (1993); Master of Science, University of Tennessee Health Science Center (1977); Bachelor of Science in Nursing, University of Kansas (1974)

Hill, Brenda S., Instructor, 2010; Master of Science in Nursing, University of Pennsylvania (2001); Bachelor of Science in Nursing, University of Tennessee Health Science Center (1989)

Jordan, Irma L., Assistant Professor, 1997; Doctor of Nursing Practice, University of Tennessee Health Science Center (2010); Master of Science in Nursing, University of Tennessee Health Science Center (1998); Bachelor of Science in Nursing, University of Tennessee Health Science Center (1997)

Lockhart, Carol A., Professor, 2000; Doctor of Philosophy, Brandeis University (1988); Master of Science in Nursing, University of California (1974); Bachelor of Science in Nursing, Case Western Reserve University (1965)

Lynch-Smith, Donna, Assistant Professor, 2009; Doctor of Nursing Practice, University of Tennessee Health Science Center (2009); Master of Science in Nursing, University of Tennessee Health Science Center (1995); Bachelor of Science in Nursing, University of Memphis (1989)

Melander, Sheila D., Professor, 2003; Doctor of Nursing Science, University of Alabama at Birmingham (1990); Master of Science in Nursing, University of Evansville (1988); Bachelor of Science in Nursing, University of Evansville (1985)

Norris, Tommie L., Professor, 2005; Doctor of Nursing Science, Louisiana State University Health Science Center (2001); Master of Science in Nursing, University of Tennessee Health Science Center (1987); Bachelor of Science in Nursing, University of Memphis (1985)

Oswaks, Jill S., Associate Professor, 2003; Doctor of Nursing Science, University of Tennessee Health Science Center (2002); Master of Science in Nursing, Old Dominion University (1998); Bachelor of Science in Nursing, Old Dominion University (1997)

Oswaks, Roy M., Instructor, 2004; Doctor of Medicine, State University of New York at Buffalo (1971)

Patton, Susan B., Professor, 1997; Doctor of Nursing Science, University of Tennessee Health Science Center (2001); Master of Science in Nursing, University of Arkansas for Medical Sciences (1992); Bachelor of Science in Nursing, University of Memphis (1985)

Plummer, Stephanie Ann, Assistant Professor, 2010; Doctor of Nursing Practice, University of Tennessee Health Science Center (2010); Master of Science in Nursing, University of California, Los Angeles (2000); Bachelor of Science in Nursing, California State University Dominguez Hills (1997)

Putman, Kathy, Instructor, 2013; Master of Science, Clarkson College (2002); Bachelor of Science in Nursing, Mississippi University for Women (1989)

Porter, Keevia, Assistant Professor, 2010; Doctor of Nursing Practice, University of Tennessee Health Science Center (2011); Master of Science in Nursing, University of Memphis (2007); Master of Science in Nursing, Union University (2003); Bachelor of Science in Nursing, University of Memphis (1998)

Rinsdale, Lisa, Assistant Professor, 2013; Doctor of Nursing Practice, University of South Florida (2007)

Robitaille, Kimberly, Instructor, 2009; Doctor of Philosophy, University of Tennessee Health Science Center (2012)

Scott, Cheryl A., Instructor, 2012; Master of Public Administration, University of Memphis (1989); Bachelor of Science in Nursing, University of Memphis (1989)

Sharp, Jacqueline, Instructor, 2009; Master of Science in Nursing, Arkansas State University-Jonesboro (1997); Bachelor of Science in Nursing, University of Memphis (1992)

Smith, Jami A., Assistant Professor, 2012; Doctor of Health Education, A.T. Still University (2009); Master of Science in Nursing, Regis University (2006); Bachelor of Science in Nursing, University of Mississippi Medical Center (2002)

Speck, Patricia M., Associate Professor, 1969; Doctor of Nursing Science, University of Tennessee Health Science Center, 2005, Master of Science in Nursing, University of Tennessee Health Science Center (1985); Bachelor of Science in Nursing, University of Tennessee Health Science Center (1982)

Stegbauer, Cheryl C., Professor, 1976; Doctor of Philosophy, University of Tennessee Health Science Center (1994); Master of Science in Nursing, Texas Woman's University (1974); Bachelor of Science in Nursing, University of Tennessee Health Science Center (1969)

Thompson, Carol L., Professor, 1988; Doctor of Nursing Practice, University of Tennessee Health Science Center (2009); Doctor of Philosophy, Case Western Reserve University (1989); Master of Nursing Science, University of Maryland Baltimore (1974); Bachelor of Science in Nursing, Florida State University (1971)

Thompson, Lorena, Assistant Professor, 2008; Doctor of Nursing Practice, University of Tennessee Health Science Center (2009); Master of Science in Nursing, University of Tennessee Health Science Center (2007); Bachelor of Science in Nursing, Union University (2003)

Waller, Melody N., Instructor, 2004; Master of Science in Nursing, University of Memphis (2009); Bachelor of Science in Nursing, University of Tennessee – Chattanooga (2001)

Webb, Sherry, Assistant Professor, 2005; Doctor of Nursing Science, University of Tennessee Health Science Center (2006); Master of Science in Nursing, University of Tennessee Health Science Center (1992); Bachelor of Science in Nursing, University of Memphis (1986)

Wicks, Mona N., Professor, 1987; Doctor of Philosophy, Wayne State University (1992); Master of Science in Nursing, University of Tennessee Health Science Center (1987); Bachelor of Science in Nursing, University of Memphis (1981)

Williams, Joyce P., Instructor, 2008; Doctor of Nursing Practice, University of Tennessee Health Science Center (2007); Master of Forensic Science Administration, Oklahoma State University (2003); Bachelor of Arts in Nursing, Antioch University (1976)



2013-2014 Catalog

COLLEGE *of* PHARMACY

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Knoxville: 1924 Alcoa Highway • Knoxville, TN 37920 • Phone: (865) 974-2100

Nashville: 193 Polk Avenue, Suite 2D • Nashville, TN, 37210 • Phone: (615) 532-3401

Marie Chisholm-Burns,
PharmD, MPH, FCCP,
FASHP
Dean

James C. Eoff III, PharmD
Executive Associate Dean

Peter A. Chyka, PharmD, FAACT, DABAT
Executive Associate Dean, Knoxville

Stephanie J. Phelps, PharmD, BCPS, FCCP,
FAPhA

Associate Dean, Academic Affairs

Glen E. Farr, PharmD
*Associate Dean, Continuing Education
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Bobby Thomas, MPA
Assistant Dean, Administration

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Assistant Dean, Nashville

Duane D. Miller, PhD
Chair, Department of Pharmaceutical Sciences

Richard A. Helms, PharmD, BCNSP
Chair, Department of Clinical Pharmacy

John Autian, PhD
Dean Emeritus

Dick R. Gourley, PharmD, FAPhA
Dean Emeritus

GENERAL INFORMATION

History of the College

The School of Pharmacy was organized in 1898 as a part of The University of Tennessee, Knoxville and in 1906 was transferred to the Department of Medicine at the University of Nashville. In 1909, the School of Pharmacy became a part of the College of Physicians and Surgeons in Memphis and since 1911 has been an integral part of The University of Tennessee Health Science Center in Memphis. The College of Pharmacy designation was made in 1959, consistent with the other colleges of The University of Tennessee Health Science Center. Historically, the College of Pharmacy has been greatly influenced by its location in the Health Science Center in close proximity to a wide spectrum of health facilities. In recent years, deliberate efforts have been made to integrate the teaching, research and service programs of the College with similar activities of associated colleges, hospitals and health facilities throughout the city and the state. These efforts have made possible the extension of the professional and postgraduate programs to embrace clinical and advanced professional training, which is accompanied by interprofessional education.

We are very proud that the University of Tennessee College of Pharmacy has been ranked 16th among the top pharmacy schools in the nation by the prestigious U.S. News & World Report. The College of Pharmacy is fully accredited by the Accreditation Council for Pharmacy Education. The College is a member of the American Association of Colleges of Pharmacy and is fully recognized by all states, thus qualifying its graduates to be eligible for all state Board of Pharmacy examinations. The College's continuing education program offers seminars and independent study courses throughout the state and is approved by the Accreditation Council for Pharmacy Education as a provider of continuing education.

Mission Statement

The mission of the University of Tennessee College of Pharmacy is to bring the benefits of the pharmacy profession and pharmaceutical sciences to the citizens of Tennessee and the region, by pursuing an integrated program of education, research, clinical care, and public service.

The College of Pharmacy pursues this mission and supports the achievement of the University's mission by:

- Offering a professional degree educational program that produces knowledgeable, skilled and caring pharmacists who are prepared to optimize medication therapy;
- Conducting research, scholarship and post-graduate training in the design, development, production and utilization of medications and in the areas of clinical care, education and health care in order to prevent or treat disease and injury; and
- Delivering patient care services, based on contemporary evidence-based guidelines, best practices and research findings to the citizens of Tennessee and the region; and
- Serving as a resource to the community, health care professionals, policy makers, and scientists on the safe, equitable, efficient and effective use of medications for the citizens of Tennessee and beyond.

Vision

To be the premier pharmacy academic community by creating a rich culture of learning, research, scholarship, outreach and clinical care with the overall goal of improving human health in a team-based environment.

Core Values

In pursuing the mission of the College of Pharmacy the faculty, students, and staff are guided by these shared values, which are the foundation of its practices, spirit, and culture. We are dedicated to:

- Advancing excellence.
- The profession of pharmacy with an orientation to the future.
- Our student pharmacists, alumni, citizens of Tennessee and beyond.
- Professionalism in faculty, staff and students.
- Mutual trust, respect, honest, integrity and accountability.
- Interprofessional and interdisciplinary collaboration and teamwork.
- Diversity in our faculty, staff and student body
- Continuous quality improvement
- Practice that is evidenced-based.

Biography of the Dean

Marie A. Chisholm-Burns, PharmD, MPH, FCCP, FASHP, is Dean and Professor of the University of Tennessee Health Science Center College of Pharmacy. She previously served as Professor and Head of the Department of Pharmacy Practice and Science at the University of Arizona College of Pharmacy, with joint appointments as Professor in the Department of Surgery and the Division of Health Promotion Sciences. Dr. Chisholm-Burns received her BS in Psychology and General Studies (Emphasis in Biology) from Georgia College, BS in Pharmacy and Doctor of Pharmacy degrees from The University of Georgia, and Masters in Public Health from Emory University. She completed her residency at Mercer University Southern School of Pharmacy and at Piedmont Hospital in Atlanta, Georgia.

Dr. Chisholm-Burns is Founder and Executive Director of the Medication Access Program, which increases medication access to transplant patients. She has also served in numerous elected leadership positions in several different professional organizations, has worked in multiple pharmacy settings, and is a member of the National Academies of Practice. She serves as a member of governmental organizations, such as the Food and Drug Administration. With more than 240 publications and approximately \$8 million in external funding as principal investigator from organizations such as the National Institutes of Health and several foundations, she is a prolific scholar. She has published several textbooks that have been adopted in many schools of pharmacy, medicine, and nursing. In 2008 and 2011, textbooks co-edited by Dr. Chisholm-Burns, *Pharmacotherapy Principles and Practice* and *Pharmacy Management, Leadership, Marketing, and Finance*, respectively, received the Medical Book Award from the American Medical Writers Association. She has received numerous awards and honors including the Robert K. Chalmers Distinguished Pharmacy Educator Award from the American Association of Colleges of Pharmacy, the Clinical Pharmacy Education Award from the American College of Clinical Pharmacy, the Daniel B. Smith Practice Excellence Award from the American Pharmacists Association, the Rufus A. Lyman Award for most outstanding publication in the *American Journal of Pharmaceutical Education* (both in 1996 and 2007), the Nicholas Andrew Cummings Award from the National Academies of Practice, the Ruby Award from Soroptimist, the Award of Excellence from the American Society of Health-System Pharmacists (ASHP), and the Pharmacy Practice Research Award from the ASHP Foundation Literature Awards Program. Dr. Chisholm-Burns is also a Fulbright Scholar. She lives in Memphis, Tennessee with her husband and eight year old son, and enjoys writing, cycling, and playing chess.

Administrative Structure

The administrative leadership team within the College of Pharmacy is comprised of the following:

- Marie Chisholm-Burns, PharmD, MPH, FCCP, FASHP, Dean
- James C. Eoff III, PharmD, Executive Associate Dean
- Peter A. Chyka, PharmD, FAACT, DABAT, Executive Associate Dean, Knoxville
- Stephanie J. Phelps, PharmD, BCPS, FCCP, FAPhA, Associate Dean, Academic Affairs
- Glen E. Farr, PharmD, Associate Dean, Continuing Education and Public Service
- Bernd Meibohm, PhD, Associate Dean, Research and Graduate Programs
- Debbie C. Byrd, PharmD, BCPS, Associate Dean, Professional Affairs
- Bobby Thomas, MPA, Assistant Dean, Administration
- D. Todd Bess, PharmD, BCPS, Assistant Dean, Nashville
- Richard A. Helms, PharmD, BCNSP, Chair, Department of Clinical Pharmacy
- Duane D. Miller, PhD, Chair, Department of Pharmaceutical Sciences
- John Autian, PhD, Dean Emeritus
- Dick R. Gourley, PharmD, FAPhA, Dean Emeritus

Faculty

The faculty is organized to constitute functional units in the major disciplines of the pharmacy curriculum. In addition to the full-time and part-time members of the College of Pharmacy, teaching personnel includes faculty from the colleges of Medicine, Dentistry, and Graduate Health Sciences of the Health Science Center.

Locations and Facilities

The College's main facility is housed on the UT Health Science Center Memphis campus.

881 Madison Avenue
Memphis, TN 38163
901.448.6036

The College also maintains a campus located at the University of Tennessee Medical Center, Knoxville, Tennessee.

1924 Alcoa Highway, Box 117
Knoxville, TN 37920
865.974.2100

Finally, the College has a Clinical Education Center in Nashville, Tennessee, as part of the statewide commitment to pharmacy education and public service.

193 Polk Ave, Suite 2D
Nashville, TN 37210
615.532.3401

Professional Accreditation

The Accreditation Council for Pharmacy Education (ACPE) accredits the Doctor of Pharmacy program at the University of Tennessee Health Science Center College of Pharmacy. The College was last accredited in 2008 and given a full six years of accreditation.

Accreditation Council for Pharmacy Education
200 North Clark Street, Suite 2500
Chicago, Illinois 60602-5109
312.664.3575 (phone)
312.664.4652 or 312.664.7008 (fax)

Program Modification

The faculty of the College of Pharmacy reserves the right to make changes in curriculum, policy and procedures when, in its judgment, such changes are in the best interest of students and the College of Pharmacy. Ordinarily, a student may expect to receive a degree after meeting the requirements of the curriculum, as specified in the catalog currently in force when they first enter the College, or in any subsequent catalog published while they are a student. However, the College of Pharmacy is not obligated to fulfill this expectation, or to offer in any particular year, a course listed in the catalog.

DEGREES OFFERED

The College of Pharmacy offers the **Doctor of Pharmacy degree (PharmD)**. This is an entry-level professional doctorate similar to that of other health sciences (e.g., Medicine, Dentistry). Graduate programs leading to either the Master of Science or to Doctor of Philosophy Degree are available through the UTHSC College of Graduate Health Sciences. Graduate study is offered with an emphasis in the areas of medicinal chemistry and pharmaceuticals (within the graduate degrees in pharmaceutical sciences) as well as in health policy/health services research (within the graduate degrees in health outcomes and policy research). A dual PharmD/PhD program, based both within the College of Pharmacy (PharmD) and the College of Graduate Health Sciences (PhD), is available to select students. Additional information on graduate studies can be found in the College of Graduate Health Sciences portion of this catalog. Certificates in **Health Informatics** (offered through the College of Allied Health Sciences) and **Nuclear Pharmacy** are available for select students enrolled in the PharmD program; additional information is available from the Associate Dean of Academic Affairs.

ACADEMIC CALENDAR 2013 - 2014

| Date | Activity | Class |
|---|--|------------------|
| Monday, July 1, 2013 | Tuition and fees due fall 1 | P3 and P4 |
| Monday, July 1, 2013 | Rotations Begin | P3 and P4 |
| Monday, August 12, 2013 | tuition and fees due fall 3 | P1 and P2 |
| Monday, August 12, 2013 | P1 Classes & Orientation Week | P1 |
| Friday, August 16, 2013 | P2 Orientation | P2 |
| Monday, August 19, 2013 | Class begins | P2 and P3 |
| <i>Monday, September 2, 2013</i> | <i>Labor Day (Offices closed)</i> | |
| Thursday, October 17, 2013 y | Fall break begins | P1 and P2 and P3 |
| Sunday, October 20, 2013 | Fall break ends | P1 and P2 and P3 |
| <i>Thursday, November 28, - Friday, November 29, 2013</i> | <i>Thanksgiving break (offices closed)</i> | |
| Friday, December 6, 2013 | Last day of classes | P1 and P2 and P3 |
| Friday, December 13, 2013 | Graduation | |
| Friday, December 13, 2013 | Last Day of Final Exams | P1, P2, and P3 |
| <i>Monday, December 23 - Friday, December 27, 2013</i> | <i>University Holiday (offices closed)</i> | |
| <i>Wednesday, January 1, 2014</i> | <i>University Holiday (offices closed)</i> | |
| Thursday, January 2, 2014 | Rotations begin | P3 and P4 |
| Thursday, January 2, 2014 | Tuition and Fees Due Spring 1 | All students |
| Monday, January 6, 2014 | Classes Resume | P1 and P2 |
| <i>Monday, January 20, 2014</i> | <i>University Holiday (offices closed)</i> | |
| Monday, March 31, 2014 | Spring Break Begins | P1 and P2 |
| Friday, April 7, 2014 | Spring Break Ends | P1 and P2 |
| <i>Friday, April 18, 2014</i> | <i>Spring Holiday (offices closed)</i> | <i>P1 and P2</i> |
| Friday, May 2, 2014 | Last day of classes | P1 and P2 |
| Friday, May 9, 2014 | Last day of final exams | P1 and P2 |
| <i>Monday, May 26, 2014</i> | <i>Memorial Day Break (offices closed)</i> | |
| Friday, May 30, 2014 | Graduation | P4 |
| Friday, June 30, 2014 | Rotations End Spring 1 | P2 and P3 |

ADMISSION AND SELECTION

Application Process

The UTHSC College of Pharmacy, as a part of the University of Tennessee (UT) system, is a state-supported institution and gives priority to resident students. Nonresidents are eligible to apply and may be admitted on a competitive basis. Non-residents compose approximately 15% of the student body. The College of Pharmacy accepts applications only from U.S. citizens or permanent residents. Applications from foreign citizens for acceptance to the entry-level professional degree program are not accepted.

Interested applicants may apply online via PharmCAS (<http://www.pharmcas.org/>), designating the University of Tennessee College of Pharmacy to receive the application. Only admitted students will be required to complete the UT College of Pharmacy Supplemental Application online and submit the \$75 fee.

Once the application is complete, the file is evaluated by the admissions committee, which consists of faculty members, practicing pharmacists and students from both the Memphis and Knoxville campuses. The highest-ranking applicants according to the stated admissions requirements will be notified of a scheduled interview date and time. The committee reviews the materials of all applicants who are selected to interview with the college and makes decisions according to the college's admissions requirements.

Pre-Pharmacy Curriculum

The first three years of the pharmacy program consist of a pre-professional curriculum completed in a regionally-accredited university or college. Courses for the pre-pharmacy curriculum are not offered at the UTHSC. In order to be admitted to the College of Pharmacy, a student must have completed *90 term hours* of required course work at an accredited institution as outlined below.

| Prerequisite Courses | Credit Hours |
|--|--------------|
| BIOLOGY SEQUENCE | |
| General Biology/Zoology 1 & 2 ⁴² | 8 |
| Anatomy-Physiology 1 & 2 ⁴³ | 8 |
| Microbiology ⁴⁴ | 3 |
| CHEMISTRY SEQUENCE | |
| General Chemistry 1 & 2 | 8 |
| Organic Chemistry 1 & 2 | 8 |
| Biochemistry 1 & 2 ⁴⁵ | 6 |
| MATH & SCIENCE | |
| Statistics | 3 |
| Calculus | 3 |
| ENGLISH | |
| English Composition | 6 |
| Communication/Speech | 3 |
| ELECTIVES | |
| Social Science Electives (Sociology, Psychology, Political Science, Economics) | 6 |
| Humanities Electives (Literature, Language, History, Philosophy) | 6 |
| GENERAL ELECTIVES (any courses) | 14 |

⁴² Botany cannot be substituted for the general biology/zoology requirement

⁴³ Human anatomy & human physiology may be taken as separate courses totaling 8 hours. If the college attended is on quarters, the two courses may only total 7 hours

⁴⁴ Microbiology (a 4-hour course is preferred, however, the 3-hour course will be acceptable IF a lab is included)

⁴⁵ Biochemistry lab is NOT required, but recommended. If the college attended only offers ONE general biochemistry course, you can replace the Biochemistry 2 requirement with an additional upper level biology course such as Cell Biology or Genetics.

The quality of work completed in the pre-pharmacy curriculum must have been such as to predict success in a professional school. A grade of “C” or above must be achieved for each required pre-pharmacy course and the overall academic average for all courses completed must not be less than a 2.5 on a 4.0 scale. Students must have presented evidence of having completed the preliminary training required at the time of matriculation as a first year student pharmacist.

It should not be assumed that completion of the minimal course requirements assures admission to the College. Admission is through a Committee on Admissions and is based on the overall qualifications of the applicant. Academic record, references and information included in the application are all considered. The Committee on Admissions strongly recommends that candidates research the profession of pharmacy via a part-time job or through shadowing pharmacists in professional settings. Any candidate may be required to complete additional course work without regard to his academic average at the time of evaluation. The College has a rolling admission process beginning in August and ending in March. The deadline to submit an application for admission is February 1.

Twelve hours of electives must be scheduled in the social sciences and humanities (e.g., Sociology, Economics, Political Science, History, etc.) The remaining fourteen hours of electives may be scheduled in the natural sciences (Genetics, Cell Biology, Immunology, and Physics are recommended) business administration, humanities or other areas pertinent to the individual's personal or professional interest. Questions relative to the completion of prerequisite courses should be directed to the College of Pharmacy admissions staff on the Memphis campus at (901) 448-6120 or on the Knoxville campus at (865) 974-2100. The email address for admissions staff is pharmadmiss@uthsc.edu

Advanced Placement in Pre-Professional Subjects

Advanced placement will be accepted for:

1. Subject examinations with a minimum score of three (3) and in the sciences a minimum grade of B in the equivalent number of hours of advanced course work in the subject (Test scored: 1 to 5);
2. College Level Examination Program (CLEP) subject examinations will be accepted with minimum grade of B and in the sciences a minimum grade of B in an equivalent number of hours of advanced course work in the subject;
3. Advanced placement policies of institutions for ACT and SAT credit will be accepted with minimum 90 percentile (college bound norms) and in sciences, a minimum grade of B in an equivalent number of hours of advanced course work in the subject.

Advanced credit test scores must be forwarded to The University of Tennessee Health Science Center, Office of Enrollment Services, by the testing agency.

An undergraduate degree is valuable and the majority of students accepted to the College of Pharmacy have a degree prior to admission. However, applicants able to successfully complete all 90 hours of pre-requisite courses within 3 academic years should apply to the College during the 3rd year of pre-requisites.

Pharmacy College Admission Test

Applicants must satisfactorily complete the national Pharmacy College Admission Test ([PCAT](#)). The average percentile score of all applicants is the 50th percentile and the average score of students accepted to the program is approximately the 70th percentile. To apply for the PCAT testing, contact Pearson Assessment at www.PCATweb.info. Once registered, scores are to be sent to PharmCAS (Code 104). The PCAT is administered multiple times per month during the months of July, September, and January. The College strongly recommends that applicants take the test early in the admissions cycle (on one of the July or September dates) in order to have the opportunity to retake the exam before the close of the admission cycle.

Work Experience

Work experience or shadowing in a pharmacy setting is not a requirement for admission to the college. However, such experience is valuable in determining a person's motivation to pursue this field of study. Although not a requirement for admission to the college, it is recommended prospective applicants obtain employment in a pharmacy setting if possible, prior to completion of the pre-pharmacy requirement, or schedule appointments with practicing pharmacists to discuss the profession. The College's pre-pharmacy clubs, located in Memphis, Knoxville and Nashville, are available to assist prospective students in identifying pharmacists or sites where they can shadow.

Personal References

Three letters of reference are required and should be included as part of the PharmCAS application. Ideally, at least one letter should be written by a pharmacist. Other letters should be written by business or professional persons who are acquainted with the applicant and have knowledge of the applicant's personal circumstance and qualifications are qualified to provide a recommendation. Present or former employers are especially appropriate sources of reference. Evaluation by a faculty member, especially science faculty, is also very important. Parents and members of the immediate family generally should not give references.

Technical Standards for Admission and Retention

The educational objective of the Doctor of Pharmacy (PharmD) degree program at the College of Pharmacy is to prepare students for the practice of pharmacy. Students admitted to, as well as those continuing in the PharmD program, must have the intellectual, emotional, and physical abilities, with reasonable accommodations provided to those with disabilities, to acquire the knowledge, behaviors, clinical and technical skills to successfully complete the curriculum in preparation for licensure as a practicing pharmacist. Further, the ability to provide safe and effective drug therapy to the patient, on whom the professional education process is primarily focused, must be ensured as the final and ultimate consideration. Therefore, it is essential for competent patient care to require students to meet minimum technical standards in their pharmacy education.

The technical standards outlined below specify those attributes the faculty considers necessary for initiating, continuing, or completing a high quality pharmacy education program, thus enabling each graduate to enter practice. The awarding of the PharmD degree signifies that the holder is prepared to enter into the practice of pharmacy. The faculty has the responsibility to monitor the maintenance of these standards. Students must be able to independently and proficiently perform all of the described functions. In addition, any conditions that pose a current or potential risk to the safety and well-being of patients or colleagues must be formally disclosed prior to enrollment in the College of Pharmacy or as soon as it is known. Such disclosure will not result in automatic exclusion/dismissal from the program but must be considered in the interest of patient safety.

The five standards listed below describe the essential functions students must demonstrate in order to fulfill the requirements of a pharmacy education, and thus, are prerequisites for entrance to, continuation in, and graduation from the College of Pharmacy. The College of Pharmacy will consider for admission any applicant who demonstrates the ability to perform or to learn to perform the skills listed in this document. A candidate for the PharmD degree must meet or exceed the required aptitude, abilities, and skills, in the following areas:

- Observation
- Communication
- Sensory and Motor Coordination and Function
- Intellectual, Conceptual, Integrative, and Quantitative Abilities
- Behavioral and Social Attributes

Observation - Students must be able to observe demonstrations and experiments, including but not limited to, the basic and pharmaceutical sciences and medical illustrations and models. They must be able to directly and accurately observe a patient's physical condition, noting nonverbal as well as verbal signals. The student must be able to obtain a history and perform appropriate physical assessments and to correctly integrate the information obtained from these observations to develop an accurate therapeutic plan.

They must be able to prepare medications for dispensing to patients and observe the activities of technical staff operating under their supervision. This observation necessitates the functional use of the sense of vision, hearing, and other sensory modalities.

Communication - The student must be able to communicate in oral and written English with patients, the patient's family members or caretaker, and other health care practitioners. Students must be able to communicate quickly, efficiently, effectively, and accurately with the faculty and all members of the healthcare team when the time available is limited in order that decisions based upon these communications can be made rapidly.

Sensory and Motor Coordination and Function - A student pharmacist must have sufficient motor function and skills to perform basic tasks in the practice of pharmacy. These tasks include, but are not limited to, motor function sufficient to monitor drug responses, accurately compound and prepare sterile and non-sterile dosage forms, elicit information from patients using basic patient assessment skills such as palpation, auscultation, percussion, and other diagnostic maneuvers, provide general care and emergency treatment to patients (e.g., first aid treatments, cardiopulmonary resuscitation), perform basic laboratory tests (e.g., blood glucose concentrations), and administer immunizations.

Intellectual, Conceptual, Integrative, and Quantitative Abilities - A student pharmacist must possess sufficient intellectual, conceptual, integrative, and quantitative abilities to complete a rigorous and intense didactic and experiential curriculum. They must be able to learn through a variety of modalities including, but not limited to, classroom instruction, small group activities, individual study, preparation and presentation of reports, use of computer technology, clinical simulation and interprofessional educational activities. A student must be able to memorize, measure, calculate, reason, analyze, synthesize, and apply complex information. They must also be able to comprehend spatial relationships and three-dimensional models.

Behavioral and Social Attributes - Students must possess the emotional and mental health required for full use of their intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities attendant to didactic and experiential education, and the development of mature, sensitive, and effective relationships with patients and healthcare professionals of differing cultures and backgrounds. Compassion, integrity, kindness, patience, interpersonal skills, and motivation are required of all students.

Students must be of sufficient emotional health to be able to tolerate physically, intellectually, and emotionally taxing workloads and to function effectively under stress or with distractions thus enabling them to adapt to circumstances and situations that may change rapidly without warning and/or in unpredictable ways. The student must be able to consistently complete all assignments including examinations in a timely manner.

Enrollment with Advanced Standing

Admission on an advanced standing basis is dependent on the availability of a position in the class. Admission for advanced standing is competitive and students meeting minimum requirements are not guaranteed admission. Because of significant curricular modification made when the College moved basic science courses to prerequisites, UT's curriculum will require most transfer students a loss of one professional year. An applicant who requests admissions as an advanced standing student must:

1. Provide credentials certified by the proper authorities from the college or school of pharmacy previously attended, plus undergraduate colleges or universities attended, including satisfactory discharge of all financial obligations toward the institutions. A letter of good standing from the dean of the pharmacy school attend will suffice. Applications from students dismissed from a college or school of pharmacy for academic or disciplinary reasons will not be accepted. Provide certified transcripts of grades for all pre-pharmacy and professional courses.
2. Transcripts must be official and must be mailed directly from the school to UTHSC. UTHSC does not accept transcripts issued to the student, mailed by the student, faxed, or hand-delivered. Transcripts should be sent directly to the UTHSC Office of Admissions. Please check the web site for mailing directions (<http://www.uthsc.edu/admissions/>).
 - a. Transcripts of college coursework completed outside of the US must be submitted for evaluation by one of the following organizations: Educational Credit Evaluators (ECE who can be contacted by email at eval@ece.org or through the web at www.ets.org); or World Education Services (WES who can be contacted by email at support@wes.org or through the web at www.wes.org. The UTHSC Office of Admissions will also accept credentials evaluated by National Association of Credential Evaluation Services (NACES) members. For more information about current members of NACES, visit www.naces.org.
3. Students must have successfully completed all prerequisites required for admission to the UTHSC College of Pharmacy.
4. Provide Pharmacy College Admission Test (PCAT) scores.
5. Provide three letters of recommendation.
6. Provide descriptions of courses from the current pharmacy curriculum to determine if students may enter without losing previous credits. Students from schools holding membership in the American Association of Colleges of Pharmacy will be allowed full course or subject credit for all courses completed satisfactorily assuming an equivalent number of hours of credit and equivalent content.
7. Appear for a personal interview.

In order to fulfill the requirements of the College and qualify to receive the PharmD degree, a transfer student must complete, at a minimum, the last two years of study in residence at The University of Tennessee College of Pharmacy.

Other Requirements

The University of Tennessee Health Science Center requires that all matriculating students undergo a criminal background check, document proper immunizations, and show evidence of health insurance prior to matriculation. Specific information can be found in the official UTHSC student handbook, CenterScope, at <https://www.uthsc.edu/centerscope/>.

At the University of Tennessee Health Science Center, all coursework is conducted in the English language, and English proficiency is a necessary prerequisite for student success.

Student Status

In order to be classified as full-time, a student must be enrolled in 9-hours or more of coursework in the doctor of pharmacy program.

Applications from foreign citizens for acceptance to the entry-level professional degree program are not accepted. Student may not complete the professional degree program on a part-time basis. Although student pharmacists often accept outside employment in a pharmacy setting while enrolled in the professional program, outside employment during the early terms of the curriculum is discouraged. The college takes the position that such employment must not interfere with the regular studies, academic success, and responsibilities of enrolled students. Thereafter, students should use their own judgment in accepting employment, keeping in mind their primary objective in attending a professional degree program.

TUITION, FEES, AND EXPENSES

Information about tuition and fees for the individual programs in the College of Pharmacy may be found on the bursar's website (http://www.uthsc.edu/finance/bursar/colleges_fee_information.php) with additional information regarding estimates available on the financial aid website at: (<http://www.uthsc.edu/finaid/Pharmacy.php>).

Additional Expenses

As of the fall of 2013, hardcopy handouts will no longer be provided to support the College of Pharmacy educational programs. Students can print their own copy of materials from the course Blackboard site, but the student will assume all cost in excess of that covered through registration fees. It is strongly recommended, but not required, that all students have an iPad™, tablet or laptop computer. Students are also encouraged, but not required, to have a color printer.

Required Textbooks

Students may access the required books for all courses in their professional program by going to the following link to the Bookstore on the UTHSC website: <http://uthsc.bncollege.com>.

SCHOLARSHIPS AND FUNDING

Students may access information regarding Financial Aid, including information on applying for financial aid, available scholarships, financial literacy counseling, and general student loan information at <http://www.uthsc.edu/finaid/>. Small emergency loans are available from the College. Students in need should contact the Associate Dean, Student Affairs. A student may receive one loan per term and the loan must be repaid before the end of that term or it will automatically be withheld from financial aid.

The College offers a limited number of scholarships based on academic excellence, community service, leadership, and/or financial need.

SAMMIE AND DORIS ARNOLD SCHOLARSHIP – Established in 2008 by Dr. and Mrs. Arnold of Medon, Tennessee for pharmacy students with demonstrated need.

JACK AND MARY BEVINS SCHOLARSHIP – Established by Dr. and Mrs. Bevins of Knoxville in 1999 for pharmacy students with demonstrated need. Dr. Bevins owned a pharmacy in Farragut, TN.

BAETEENA M. BLACK SCHOLARSHIP – Established by members of the Tennessee Pharmacists Association in honor of Dr. Black, executive director of TPA. She is a 1971 alumna of the College.

CARDINAL HEALTH PHARMACY SCHOLARSHIP – The University of Tennessee College of Pharmacy was selected to receive this scholarship by Cardinal Health because it offers strong nuclear, independent, or hospital pharmacy curricula.

BOB CATES SCHOLARSHIP – At the time of his death, Bob was the chief pharmacy officer of Accredo Health, and employees of the company established and funded this scholarship in his memory. Bob was a 1961 alumnus of the College.

CHATTANOOGA AREA PHARMACIST SOCIETY SCHOLARSHIP IN MEMORY OF REICHLE CHANDLER – Established in 2012 by members of the Chattanooga Area Pharmacist Society for students from Hamilton or Bradley Counties in Tennessee. This scholarship honors the memory of long-time CAPS member Reichle Chandler, a 1971 graduate of the College.

LEONARD AND DOTTYE COMPTON SCHOLARSHIP – Established by Dr. and Mrs. Compton in 2004 for pharmacy students on the bases of merit and need, this is a companion endowment to the Seldon D. Feurt Memorial Fund. Dr. Compton retired after 42 years of service with Walgreen. He is a former member of the Tennessee Board of Pharmacy and a former Speaker of the House of Delegates of TPA. He is currently Chair of the Seldon D. Feurt Memorial Committee.

CORLEY FAMILY SCHOLARSHIP – Established by Dr. and Mrs. Alan Corley and his parents, Drs. Bill and Mareta Corley, all pharmacists from Greeneville, TN. It is awarded on the bases of merit as well as need. First preference is given to students from Northeast Tennessee. Alan is a former president of TPA, the Tennessee Board of Pharmacy, and the College of Pharmacy Alumni Board of Directors.

ROBERT AND THELMA DODSON SCHOLARSHIP – Dr. Dodson, who enjoyed a 40-year career as a sales representative for Eli Lilly and Co. formed this scholarship with first preference for students from Northeast Tennessee. Dr. and Mrs. Dodson, of Johnson City, recently passed away, but this scholarship endowment will remember them *in perpetuity*.

DIANNE VEST DUNCAN SCHOLARSHIP – This scholarship was established and funded by friends and colleagues of Dr. Duncan in honor of her leadership of the profession of pharmacy in Tennessee. Dianne is also a former president of the UT Alumni Association. Established in 2009.

THE ELIZABETH CLUB SCHOLARSHIP – This scholarship is for females from Tennessee pursuing healthcare education. It is a UTHSC campus-wide scholarship and is open to female students in all Colleges.

PHILIP AND GAYE ENKEMA SCHOLARSHIP – Dr. Enkema of Kingsport, a former President of the Tennessee Pharmacists Association and the College of Pharmacy Alumni Association, retired from pharmacy practice in 1997 and formed this scholarship in 2000. First preference is given to students from East Tennessee.

VIRGINIA EOFF SCHOLARSHIP – This scholarship is in memory of the late Mrs. Virginia Eoff. First preference is given to students active in professional organizations. Established by the Pharmacy Classes of 1989 and 1990 in memory of Mrs. Eoff.

VIC AND LUCILLE FREELS SCHOLARSHIP – Established by Mrs. Freels in 1992, this scholarship is based on merit as well as need. Mr. and Mrs. Freels owned and operated pharmacies in the Kingsport area. He was a graduate of the Mercer University Southern School of Pharmacy in Atlanta.

JANA L. FUQUA SCHOLARSHIP – Established in 2005 by Dr. Fuqua, a 1977 graduate of the College of Pharmacy. Jana is a former member of the College of Pharmacy Alumni Board and a driving force behind the local UTAA Memphis & Shelby County Chapter.

MELINDA RHEA GARRETT SCHOLARSHIP – A member of the Class of 2009, Melinda died unexpectedly while she was a first-year student. This scholarship was established by members of her class. Her degree was awarded posthumously in 2009.

DICK AND GRETA GOURLEY SCHOLARSHIP – This scholarship honoring Dick and Greta Gourley was established in 2006 by colleagues and friends and was first awarded in 2009-10. The scholarship in their names is a lasting tribute to the deanship and leadership in the profession of pharmacy by both Drs. Gourley.

JIM AND BETTY HAVERSTICK SCHOLARSHIP – Funded by Sandie and Don Fancher of Gainesville, Georgia, in memory of her parents, who owned a restaurant in Gatlinburg. Don recently retired from Procter & Gamble in Cincinnati, and Sandie continues to work as a pharmacist on a part-time basis. Based on merit and need.

LARRY AND SHERRY HILL COMMUNITY PHARMACY SCHOLARSHIP – Given by Drs. Hill of Rockwood. First preference should be given to students from Anderson, Morgan, and Roane Counties, to encourage recipients to pursue careers in community pharmacy. Sherry is a former president of TPA, and Larry is a current member of the Tennessee Board of Pharmacy. They own pharmacies in Rockwood and Harriman.

JAMES M. HOLT CLASS OF 1988 SCHOLARSHIP – This memorial to Dr. Holt was established by his classmates of the Pharmacy Class of 1988. A faculty member and clinical pharmacist at the VA Medical Center in Memphis, Jim was a favorite preceptor of students.

AILEEN WADLEY HOOSER SCHOLARSHIP – One of the oldest pharmacy scholarships, it was established by the widow of TPA president Eddie Hooser in the 1950's.

DUDLEY AND KATHERINE HOSKINS SCHOLARSHIP – Established by Dr. and Mrs. Hoskins of Clinton, TN, to encourage students to pursue careers in independent pharmacy. Dudley, a 1936 graduate of the College, owned pharmacies in Clinton, Harriman, Oak Ridge, and Norris.

MICKEY AND HILIE COLLINS KING SCHOLARSHIP – A native of Parsons, TN, Mickey is the owner of a very successful cardiac imaging company in Atlanta.

KMART PHARMACY SCHOLARSHIP – Funded by Kmart Corporation, this is a general scholarship available to all UT Pharmacy students.

J.W. KIRKSEY MEMORIAL SCHOLARSHIP – Begun by Mr. Kirksey's family, colleagues and classmates in the Class of 1949, preference is given to residents of Northeast Tennessee. Mr. Kirksey was president of the Pharmacy Class of 1949 and spent his career in sales with Abbott Laboratories.

KEVIN LAZARINI SCHOLARSHIP – Kevin, a Memphis native, died of cancer shortly before his graduation in 1992. This endowment was begun in 1993 by Kevin's classmates in his memory.

RAYMOND A. MCCULLOUGH SCHOLARSHIP – Established and funded through the last will and testament of Mr. McCullough of Hendersonville, TN.

MEMPHIS AREA PHARMACISTS SOCIETY SCHOLARSHIP – Established in 2000 for students from Shelby County, TN, and Desoto County, MS, by the Memphis Area Pharmacists Society.

ANNA BELLE AND TATE MORGAN SCHOLARSHIP – Begun in 1984 upon the bequest of the Morgans to benefit students from Knox County, Tennessee.

DENNIS R. AND MARTHA M. O'DELL SCHOLARSHIP – Established in 2005 by Dr. and Mrs. O'Dell with financial need as the preference. Dennis is a retired vice president of Walgreens, and they live in the Chicago area.

PHARMACY CENTENNIAL SCHOLARSHIP – Established by the College and alumni in 1998 during the celebration of the 100-year anniversary of the College of Pharmacy. This scholarship is awarded on the basis of merit and dedication to the profession of pharmacy as a career.

PHARMACY CLASS OF 1961 SCHOLARSHIP – Formed by the members of the Class of 1961 in memory of their deceased classmates.

PHARMACY SCHOLARSHIPS (GENERAL) – This account is a fund that receives gifts from alumni and friends who want their gifts to benefit students through scholarships. It is not endowed, but receives many gifts annually.

PLOUGH PHARMACY SCHOLARSHIP – One of the largest endowments in the College, the endowment was funded by the legendary Memphis philanthropist, Mr. Abe Plough, through the Plough Foundation. Contributions by the Plough Foundation were matched by the Seldon D. Feurt Memorial Fund for a period of ten years, culminating in 2005.

ROGER W. PRICE SCHOLARSHIP – Established in 2002 by Dr. Price, a former district manager for Kmart Pharmacies. It was awarded for the first time in the 2009-10 academic year.

WILLIAM P. PURCELL SCHOLARSHIP – Begun in 2000 by Dr. and Mrs. John Clayton in honor of his mentor, Dr. Purcell, this scholarship is awarded on the bases of merit and need.

REEVES-SAIN SCHOLARSHIP – Established by Drs. Rick Sain and Shane Reeves of Murfreesboro to encourage pharmacy students to strive for excellence. Dr. Sain is a former president of TPA and served as a member of the College of Pharmacy Alumni Board of Directors. Drs. Reeves and Sain have won numerous awards for their professional and community service.

MARTHA ANN ROBINSON SCHOLARSHIP – Given to the College by the parents of Martha, a 1989 graduate, in her honor and because of her exceptional experiences while in pharmacy school, this scholarship is awarded on the basis of need.

EDDIE AND DOT ROWE SCHOLARSHIP – Begun by the Rowe family in 2005, this scholarship recognizes the financial assistance provided to Eddie while he was a student at UT by Dean Dick Feurt. This endowment will last *in perpetuity* to repay many times over Dean Feurt's scholarship when Eddie was about to withdraw from pharmacy school due to financial difficulties. Eddie is a 1969 graduate and is a former president of TPA and the Tennessee Board of Pharmacy.

ANNA AND JOHN SCHURIG, SR. SCHOLARSHIP – Dr. and Mrs. John Schurig, Jr. established this scholarship in memory of his parents to help provide financial support for students in need. Dr. Schurig received his BSPH in 1969 and his PhD in 1973 from UT, and he has worked as a research scientist and administrator in pharmaceutical industry since that time.

CHARLES R. AND HENRY C. SHAPARD SCHOLARSHIP – Established by insurance agent Henry C. Shapard of Shelbyville as a memorial to his grandfather and father, who were pharmacists.

BILL AND BETTY STAGGS SCHOLARSHIP – Established by the children of Bill and Betty Staggs of Dunlap, TN, both members of the 1948 graduating class. First preference should be for the student who is ASP president. Second preference is for the student who is president of PSGA.

ALICIA STEPHENS SCHOLARSHIP – Formed by members of the Tennessee Pharmacists Association in memory of Alicia, daughter of Buddy and Luana Stephens of Lebanon, TN. Alicia died unexpectedly during her father's term as TPA president.

OTHA BAILEY SWEARINGEN SCHOLARSHIP – Given to the College in memory of her husband upon Mrs. Swearingen's bequest, this scholarship is awarded on the bases of merit and need. The Swearingens lived in Indianapolis.

ALLEN F. TAYLOR SCHOLARSHIP – One of the oldest College of Pharmacy scholarships, first preference is to students from Northeast Tennessee.

TAYLOR FAMILY PHARMACY SCHOLARSHIP – Established in 2001 by Whit and Phyllis Taylor of McMinnville and their daughter Lea, who was a UT pharmacy student at the time.

JERRY AND BARBARA TREECE SCHOLARSHIP – Given to the College in December 2002 by the Treeces, this scholarship should be awarded on the basis of merit and need. Jerry is a former executive with Super D, Walgreens, and Third Party Solutions, Inc.

CONNIE JOHNSON UNDERWOOD SCHOLARSHIP – Established by the Pharmacy Classes of 1990 and 1991 in memory of Connie Johnson Underwood of Dyersburg, a member of the Class of 1990. Connie died suddenly while a student at the UT College of Pharmacy.

POLICIES

Attendance Policy

The educational programs at UTHSC have been developed by the faculty and staff to provide students with the information and experiences necessary to become practicing professionals. It is expected that students attend the various educational opportunities provided for them as a part of the curriculum of the College. The College of Pharmacy will verify attendance of its student pharmacists in academically-related activities by a formal process in compliance with Federal regulations and UTHSC guidelines. Students will be asked to verify academic attendance for all required and elective classes during the first week of the term. All students will be required to show a photo ID, issued by UTHSC at its Memphis campus in their first professional year, and sign a log of attendance in the presence of an administrative staff member of the College. Attendance will also be verified after the midpoint of the term using attendance at an examination. If a leave of 2 or more school days is needed, the student must directly contact the Associate Dean for Academic Affairs as soon as possible.

Individual faculty may consider attendance mandatory for certain educational experiences. Students will be informed, in writing, where policy requires class or examination attendance and will be given information regarding excused absences, necessary documentation and any penalties that may be associated with failure to take quizzes or examinations on time.

Make-Up Examination

All students who anticipate missing an examination must contact the Associate Dean of Academic Affairs by e-mail or phone before the scheduled examination. Excused absences that are not subject to a penalty on the make-up examination will be available only from the Associate Dean of Academic Affairs and will in general only be given in the case of serious illness that requires hospitalization of the student, or hospitalization/death of an immediate family member (sister, brother, mother, father, child, spouse, grandmother, grandfather). Excused absences that are subject to a penalty on the make-up examination will be available only from the Associate Dean of Academic Affairs and will in general be given for students with illnesses that do not require hospitalization, or motor vehicle problems. The penalty incurred is based on the total number of examinations missed during the academic year (see table below). A student is required to take the missed examination as soon as possible after he/she returns, but no later than 2 business days after his/her return to class, unless there are extenuating circumstances that have been approved by the Associate Dean of Academic Affairs. Students are not permitted to miss scheduled classes in order to take a make-up examination. If the student fails to contact the Associate Dean of Academic Affairs prior to the missed examination or the student has an unexcused absence and misses the examination, the student will earn zero (0) points for the entire examination and will not be given the opportunity to make up the examination, unless extenuating circumstances exist that are approved by the Associate Dean of Academic Affairs.

| Number of Excused Missed Examinations Subject to Penalty | Penalty for the Examination Missed (number listed is an absolute % reduction) |
|--|--|
| 1 | No penalty |
| 2 | 5% |
| 3 | 7.5%, Academic Standing and Promotion Review Committee will be notified |
| 4 | 10% Appear before Academic Standing and Promotion Review Committee |
| ≥ 5 | To be determined by the Academic Standing and Promotion Review Committee |

Additional information can be obtained from the Office of Academic Affairs or found on the college website <http://www.uthsc.edu/pharmacy/offices/academicaffairs/>.

Grading Policy

The College of Pharmacy will use a grading system that permits the faculty to award, in combination with certain letter grades, a “plus” or “minus” to appropriately recognize and reward the academic achievements of students in the College. The course director or faculty member is responsible for the grading scale to be used in determining a student’s letter grade in their respective course. It is to be emphasized that a course grading scale remains the province of the individual faculty member. Once the letter grade has been assigned, the grading system will use the following quality point scale for purposes of reporting and recording student grades on routine grade reports and transcripts:

- A 4.0
- A- 3.67
- B+ 3.33
- B 3.00
- B- 2.67
- C+ 2.33
- C 2.00
- C- 1.67
- D 1.00
- F 0

The letters “**P**” or “**F**” are recorded to indicate pass or failure in specific designated (P/F) courses.

The letters “**WP**” or “**WF**” are recorded to indicate pass or failure in those instances in which a student withdraws from a course before completion, and is either passing or failing, respectively. The letter grade of “**W**” will be recorded when a student withdraws from a course before there has been evaluation of the student to determine whether he/she is passing or failing. If withdrawal occurs before the midpoint of a course, the grade for the dropped course is recorded as a ‘W’ on the official transcript. If withdrawal occurs after the midpoint, but before the course is 70% completed, the grade for the dropped course is recorded as either ‘WP’ (withdrawn passing) or ‘WF’ (withdrawn failing) depending on the student’s grades in the course at the time of withdrawal. Once a course is ≥70% completed, a withdrawal is not permitted except under extenuating circumstances. Any student who fails to complete the course will receive zero(s) for any uncompleted assignments and tests, and the final course grade will incorporate those zero(s) into the grade calculation.

The designation of “**I**” (Incomplete) will be used when a student is unable to complete the course at the regular time. In such cases, arrangements will be made by the course director for the student to complete the requirements, and the “**I**” will then be replaced by whatever grade the student earns. It is the responsibility of the student to work with the course director in determining when and under what circumstances the “**I**” grade can be changed. The student must complete all remaining course requirements by the end of the term following that in which the ‘incomplete’ was received. Otherwise the ‘**I**’ will be changed to an ‘**F**’ for the permanent record.

Dropping or Adding a Course

Students are allowed to drop or add courses in rare occasions, most commonly dropping or adding an elective course or clinical rotation. Students wishing to drop or add an elective course or rotation should contact the Associate Dean, Academic Affairs or the Director, Experiential Learning, respectively. If a request to drop or add an elective course or clinical rotation is approved, college officials will submit the necessary forms to the Office of the Registrar. Students should be aware that depending on the timing and nature of the requested change, any resulting change in total enrolled credit hours could affect enrollment status, eligibility for tuition refunds or financial aid, student loan repayments, and subsequent grades appearing on the student's official transcript.

Auditing a Course

Students are not allowed to audit courses in the College of Pharmacy curriculum.

Leave of Absence/Withdrawal

The College of Pharmacy recognizes that absences may be necessary during a portion of an academic program and strives to accommodate such absences to enable students to continue in, and complete their academic programs. Students should be aware, however, that it may be difficult to provide suitable options for makeup of missed assignments/activities even with short term absences, given the intensity, complexity and fast pace of the professional degree program.

A short term leave of absence (LOA) (e.g., illness, accidents, bereavement, other personal matters, etc.) would generally involve an absence no longer than a week during an official school term. An extended or long term LOA (college recommended/required, medical, family leave, military leave, etc.) may vary depending on the reason for the leave and would normally be longer than a week and not more than 6 months. Return after an extended leave requires approval of the Dean or designee; and for absences longer than 6 months, the student may be required to reapply for admission. Such admission is not granted automatically and is dependent on the student's academic and disciplinary records and space availability.

Prolonged absences may result in a requirement to repeat a significant portion of the program and/or to petition for readmission. Prolonged absences also affect eligibility for loan deferment and may require that students who are not in attendance for 30 days be listed as "withdrawn." If students are unable to complete a term for which aid has been received, he/she may also be required to repay some or all of the aid received for that term. Students are advised to consult with the Office of Financial Aid regarding financial obligations related to prolonged absences.

A student requesting an LOA must submit a letter to the Dean of the College with a copy to the Associate Dean, Student Affairs. The letter must include a proposal for LOA approval that includes starting and ending dates of the LOA, the reason for the LOA, any documentation supporting the need for an LOA, a general plan or endpoint for resolution of the emergency or condition, and a plan for completion of coursework upon return from the LOA. The Associate Dean, Student Affairs will convene a committee composed of the Executive Associate Dean, Knoxville, Executive Associate Dean, Memphis (if different than the Associate Dean, Student Affairs) and the Associate Dean, Academic Affairs who will review the LOA proposal and determine if the proposal meets the conditions to grant an LOA. In the case of a short-term LOA due to an emergency when formal advance notice is not practical, the student, or a responsible party, should contact the Dean's office by telephone (901-448-6036) and describe the circumstances of the short-term absence. After the acute emergency has improved, the student should follow the directions above for requesting an LOA.

If the LOA is provisionally approved, a subcommittee of the Academic Standing and Promotion Review Committee (ASPR) will review the student's transcript and plan for completion of coursework following the LOA and will make recommendations for completion of the program to the Dean and the Associate Dean, Student Affairs. A student may be required to re-take some or all of previously completed coursework. The Associate Dean, Student Affairs will notify the student of the College's decision and conditions associated with reinstatement following the LOA and submit the student status change form to Campus administrative offices. At the end of the LOA period, the student should notify the Dean and Associate Dean, Student Affairs in writing at least 30 calendar days prior to the first day of classes for the term in which the student will reinstate his or her enrollment.

Withdrawal Based on Student-Requested Change in Status

In instances in which he/she needs to withdraw from an academic program for an extended period, the student must provide written notice to the Dean or designee of the college. Either the Associate Dean for Student Affairs or the Associate Dean for Academic Affairs then completes a 'student status change form', indicating whether the withdrawing student is leaving in good standing. On receipt of this form, the Bursar's office determines whether the student is eligible for refund of some or all of their tuition and fees (see Bursar's web site for refund policy - <http://www.uthsc.edu/finance/bursar>). Given the tight timelines relating to these refunds, students are advised that withdrawals must be processed in a timely manner. Otherwise, the student will stand accountable for any fees/tuition charged.

Withdrawal due to Non-Attendance

A student who ceases to attend courses without formal approval will be considered to have withdrawn. The Associate Dean for Student Affairs or the Associate Dean for Academic Affairs will notify the Registrar's office as soon as such students are identified, and initiate a 'student status change form' that triggers notification of all supporting offices. If the student has received Title IV Aid, the Financial Aid Office will perform a Return to Title IV calculation and the Registrar's Office will report the change of student status to the federal funding agency. The grade point average for the student will be reported as zero during this period of enrollment. The date recorded for the change in status will be used to determine whether the student is eligible for repayment of a portion of their refunds of tuition and fees. It is the responsibility of the student to repay all loans in accordance with his/her loan agreements.

Dress Code

Student Attire in the Classroom

- A. Students must wear a visible UTHSC ID.
- B. No hats or head covering of any kind, except for religious, cultural, medical or ethnic observations
- C. Pants
 - a. No excessively tattered or worn pants and no clothing with holes
 - b. No Shorts
- D. Shirts
 - a. No revealing clothing, including low cut blouses or shirts/pants that allow the abdomen to be exposed. Likewise, pants should not be cut too low or worn in a manner that causes the upper portion of the buttock or underwear to be exposed.
 - b. No strapless shirts, shirts with spaghetti straps, or halter tops
 - c. No T-shirts with discriminatory or derogative statements or graphics
 - d. T-shirts that are sold by student or pharmacy organizations or UT are allowed. Jeans and scrubs are also allowed.
- E. Shoes
 - a. No flip-flops
 - b. Dress sandals are appropriate for classes

Student Attire in Professional Practice Experiences, Settings & Labs*

Students are expected to dress professionally when engaged in experiential practice activities to project a professional image. The following dress code applies to all students in pharmacy labs and practice experiences:

- A. Students must wear a name badge and a clean white waist length coat (or white pharmacy coat) at all times in the pharmacy practice laboratory and practice sites. (Scrubs are acceptable in certain labs IF the instructor has given permission, e.g., Patient Assessment lab)
- B. In all patient care settings, male students must wear a dress shirt and tie and females should dress in similar professional/business attire.
- C. Students may NOT wear the following in pharmacy laboratories or professional practice settings:
 - a. Jeans
 - b. Shorts
 - c. T-shirts
 - d. Dirty or soiled sneakers/tennis shoes
 - e. A head covering, head garment, hat, or cap unless for religious, cultural, medical or ethnic observations
 - f. Excess jewelry or accessories that may interfere with safety and the effective performance of the processes and procedures being carried out including piercing of the eyebrow, lip, nose, and tongue
 - g. Revealing clothing including low cut blouses or shirts/pants that allow the abdomen to be exposed. Likewise, pants should not be cut too low or worn in a manner that causes the upper portion of the buttock or underwear to be exposed
- D. Tattoos on the arms, back and abdomen should not be visible to patients

**Individual sites and situations may have their own professional attire policies, which take precedence over the College of Pharmacy policy. The student must adhere to those requirements while in the respective facilities.*

Complaints Policy

The College of Pharmacy is committed to a policy of fair treatment of its students in their relationships with the administration, faculty, staff and fellow students. The purpose of this policy is to establish, implement and operate a student complaint procedure. This Policy shall be provided annually in writing to the first professional year class during the new student orientation, and to other professional year classes during the first week of classes in the fall term. In addition, the policy shall be continuously accessible by students through the University of Tennessee College of Pharmacy Webpage under "Current Students" http://www.uthsc.edu/pharmacy/current_students/complaint_policy.php. Whenever possible, students should seek to resolve directly with the individuals involved those matters that serve as the basis for a student complaint. For those matters that the student is not able to resolve, relief may be sought through the following procedures:

If the subject matter of the complaint to be filed by the student is addressed by existing policy(s) of the University of Tennessee, the University of Tennessee Health Science Center and/or the University of Tennessee College of Pharmacy, the student shall file the complaint with the responsible office, in the form and manner proscribed by that office.

Example One: If the complaint alleges that the student has been discriminated against on the basis of race, color, sex, religion, national origin, age, disability or veteran status, the complaint shall be filed with the Director of Equity & Diversity for the University of Tennessee Health Science Center.

Example Two: If the complaint concerns academic dishonesty by a fellow student, the complaint shall be filed with a member of the University of Tennessee College of Pharmacy Honor Council, in the form and manner proscribed by the University of Tennessee Health Science Center Honor Code.

Example Three: If the complaint concerns grades or academic progression (formal appeal) the complaint shall be filed with the College of Pharmacy Academic Standing and Promotion Review Committee. The Committee will investigate the complaint and make a recommendation for action to the Dean.

Information concerning filing of complaints, such as the three examples provided immediately above, is provided in the University of Tennessee Health Science Center Student Handbook (CenterScope; <https://www.uthsc.edu/centerscope/>) and on the University of Tennessee Health Science Center and the University of Tennessee College of Pharmacy websites.

If the subject matter of the complaint to be filed by the student is not addressed by existing policy(s) of the University of Tennessee, the University of Tennessee Health Science Center and/or the University of Tennessee College of Pharmacy, the student shall file a written complaint with the Executive Associate Dean for the University of Tennessee College of Pharmacy. The complaint must be in writing, signed and dated by the student filing the complaint and submitted using the "Complaint Form" available on the College website.

Upon receipt, the Executive Associate Dean shall review the complaint to verify that it meets the requirements for student complaints, as set forth in paragraph 2 immediately above. If the complaint does not meet the applicable requirements, the Executive Associate Dean shall request the student to prepare and submit the complaint in the form and manner proscribed. Upon receiving a complaint in the proscribed form and manner, the Executive Associate Dean shall, at the discretion of the Executive Associate Dean, take one of the following two actions:

- a. Refer the complaint to an administrator, department chair or faculty member in a position of being able to respond to the complaint. The person to whom the complaint is referred shall investigate the complaint and shall submit to the Executive Associate Dean a written response to the complaint, and if appropriate, include a plan of corrective action. The written response shall be submitted within five (5) business days (excluding holidays) of receipt of the complaint from the Executive Associate Dean. The Executive Associate Dean shall, within five (5) business days (excluding holidays) after receiving the written response, meet with the student to deliver and discuss the written response.
- b. The Executive Associate Dean shall investigate the complaint and prepare a written response to the complaint, and if appropriate, include a plan of corrective action. The written response shall be prepared within five (5) business days of receipt of the written complaint from the student. Within five (5) business days of completing the written response, the Executive Associate Dean shall meet with the student to deliver and discuss the written response.

If the student is not satisfied with the written response pursuant to paragraph 3 immediately above, the student may file an appeal with the Dean of the University of Tennessee College of Pharmacy. The appeal shall be in writing in the form of a letter addressed to the Dean, and shall be signed and dated by the student submitting the letter of appeal. The letter of appeal shall specifically state the reason(s) why the student is not satisfied with the written response and the relief sought by the student. Simultaneous with delivery of the letter of appeal to the Dean, a photocopy of the letter of appeal shall be delivered to the Executive Associate Dean, who shall within five (5) business days (excluding holidays) of receipt of the letter of appeal deliver to the Dean the original written complaint filed by the student and the written response.

Upon receipt of the letter of appeal, the original complaint and the written response, the Dean shall review the complaint and within five (5) business days (excluding holidays) shall prepare a written decision on the letter of appeal. Within five (5) business days (excluding holidays) of completing the written decision, the Dean shall meet with the student to deliver and discuss the written decision. The Dean's decision is final. However, if a student complaint related to the ACPE standards for accreditation is unresolved, they may file a formal complaint to the Accreditation Council for Pharmacy Education via email: csinfo@acpe-accredit.org as described in their policies on their website: <http://www.acpe-accredit.org/complaints/>.

The original written complaint and written response to the complaint, and if applicable, the letter of appeal and the written decision of the Dean shall be placed in a file on student complaints to be maintained by the Office of the Dean of the University of Tennessee College of Pharmacy. A photocopy of all documents placed in the file on student complaints shall also be placed in the file on the student who submitted the original written complaint.

All aspects of student complaints shall be treated as confidential in accordance with University of Tennessee policies on confidentiality of student records. Notwithstanding this confidentiality requirement, the file on student complaints maintained in the Office of the Dean shall be made available to representatives of the accrediting agencies.

Grievance Procedure for the Accreditation Council for Pharmacy Education Accreditation Standards

Any student may bring a grievance or complaint related to the accreditation standards or the policies and procedures of the Accreditation Council for Pharmacy Education (ACPE). Any student complaint lodged against the College of Pharmacy, or the pharmacy program, alleging a violation of the ACPE accreditation standards should be submitted in writing to the College's Executive Associate Dean. The accreditation standards ("Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree," Guidelines Version 2.0, Adopted: January 23, 2011, Effective: February 14, 2011) can be found in the ACPE accreditation website at: <http://www.acpe-accredit.org/>. Complaints from other institutions, students, faculty, or the public against a college or school of pharmacy, including tuition and fee policies, and as related to ACPE standards, policies or procedures, shall be placed in writing in detail by the complainant and submitted to the ACPE office as described at the ACPE website at: <https://www.acpe-accredit.org/complaints/>.

Honor Council

Academic dishonesty at any point during the curriculum may result in a course letter grade of "F" and/or disciplinary actions as determined by the Dean of the College upon recommendation from its Honor Council. Please refer to the Honor Code of the Student Judicial System section of the official student handbook, CenterScope, at <http://www.uthsc.edu/centerscope/Centerscope.pdf> for the special provisions of the UTHSC Honor Code that pertain to the College of Pharmacy.

Criminal Background Checks for Matriculating Students

In order to assure that admitted students can successfully pursue careers as pharmacists and to conform to new requirements at clinical training sites, the College must assure that all entering students undergo a criminal background check (CBC) prior to matriculation. All applicants to programs at UTHSC must complete a Criminal Background Check as part of the on-line application process or, in cases in which the application process has involved an application service such as MCAS or PCAS, the CBC must be completed 6 months prior to matriculation. Students will be referred to the Tennessee Hospital Association (THA) website (<http://www.tha.com/>) and will click on "Student Background Checks". A summary report will be sent to the College. If any discrepancies are noted the Associate Dean for Student Affairs will notify the student by telephone and in writing that the student must schedule an appointment to review the results of his/her background check. It will be necessary for the student to bring the complete, detailed copy of the report and all correspondence from the private company that conducted the CBC to the appointment. The student and the Academic and/or Student Affairs Dean will meet to solicit additional information or appropriate explanation of the code. Students who question the accuracy of the report should immediately send a brief written statement as to the area they believe to be incorrect to the private company that performed the CBC. If the student does not challenge the discrepancies results in the report or if the findings are such that the student does not meet the healthcare site's CBC requirement, UTHSC enrollment and or participation in all clinical rotations may be denied. If a prospective student is denied admission to a program or if a current student is denied participation in clinical rotations due to CBC findings, the student will be notified by certified letter from the appropriate Dean of Student Affairs explaining why the student cannot matriculate or continue in the program. Additional background checks may be required by clinical affiliates prior to student entry into their sites. Students may bear the cost of these additional background checks.

Student Drug and Alcohol Policy

It is the policy of the University of Tennessee College of Pharmacy to maintain a safe and healthy environment for its students and employees. Therefore the College prohibits being under the influence of, or the unlawful use, manufacture, possession, distribution or dispensing of drugs ("controlled substances" as defined in the Controlled Substances Act, 21, U.S.C. 812) and alcohol on university property or during university activities.

Violation of this policy is grounds for disciplinary action - up to and including permanent dismissal ^[1] of a student. Federal and state laws provide additional penalties including fines and imprisonment (21 U.S.C. 841, et seq., T.C.S. 39-6-401 et seq.). Local ordinances and UTHSC policies (see CenterScope section on Maintenance of Professional and Ethical Standards at <http://www.uthsc.edu/centerscope/>) also provide penalties for drug- and alcohol- violators, which may include referral for local prosecution or requiring the individuals to participate satisfactorily in an approved drug or alcohol abuse assistance or rehabilitation program. To maintain a safe and drug-free environment, the College has procedures for performing screenings for controlled substances and alcohol within areas or positions that affect safety or where such screenings are required by federal regulations. In addition, screenings are permissible where there is reasonable suspicion of drug or alcohol use. The College is responsible for assuring that students entering clinical settings are 'fit for duty' and must pay particular attention to issues that could affect patient safety or student success. To this end, the College has established a number of guidelines and procedures relating to drug and alcohol monitoring.

Accommodations for Religious Beliefs, Practices, and Observances

The University of Tennessee Health Science Center acknowledges the diversity of its students and respects the rights of students to observe their religious beliefs and practices. UTHSC will endeavor to provide reasonable accommodations relating to religious beliefs and practices in response to a formal written student request. However, accommodations cannot be guaranteed in instances where such would create an undue burden on faculty, a disproportionate negative effect on other students who are participating in the scheduled educational activity, or jeopardize patient care.

Distance Education and Off-campus Instructional Sites Policy

The College is committed to providing a quality educational experience for all students regardless of geographic location or mode of delivery. Students enrolled in distance education programs or participating in instruction at an off-campus instructional site have access to the range of support services and resources necessary to successfully complete their education. Necessary and sufficient practices are followed to assure the privacy of all students regardless of geographic location or mode of delivery.

COMMUNICATION

The official method of communication between students and their respective departments, programs or the dean's office is through the UTHSC email system. Students must check their email at least once each day to avoid missing vital information.

PROFESSIONAL CONDUCT

It is the expectation of all students enrolled at the UTHSC to maintain the high ethical and professional standards of the various disciplines of the health professions. Failure to do so may subject a student to suspension or other appropriate remedial action by the University as outlined in CenterScope, Maintenance of Ethical and Professional Standards of the Health Professions (<http://uthsc.edu/centerscope/Centerscope.pdf>), or in the College of Pharmacy's *Guidelines For Student Professional Conduct* (http://www.uthsc.edu/pharmacy/current_students/code_of_conduct.php.) Failure to adhere to the standards described in these policies may result in disciplinary action, as determined by the Dean of the College upon recommendation from its Professional Conduct Committee.

PROGRESS, PROMOTION, AND GRADUATION

Satisfactory Academic Progress

Students must achieve satisfactory academic progress in order to receive federal financial aid. The Financial Aid Department's satisfactory academic standards mirror the academic progress policies of each individual college. A student who is found to not be making academic progress by their college is not eligible for federal financial aid. The rule may also apply to state, institutional, and private funds. For more information refer to CenterScope, Satisfactory Academic Progress, (<https://www.uthsc.edu/centerscope/Centerscope.pdf>).

Grade Point Average Calculation

The following letter and quality point scale will be used by the College for purposes of reporting and recording student grades on transcripts:

| | |
|----|------|
| A | 4.0 |
| A- | 3.67 |
| B+ | 3.33 |
| B | 3.0 |
| B- | 2.67 |
| C+ | 2.33 |
| C | 2.0 |
| C- | 1.67 |
| D | 1.0 |
| F | 0.0 |

If a student is required to repeat a course for any reason, both the original grade and replacement grade will be noted on the official transcript and both grades will be used in calculation of the student's GPA. The same policy and procedure will apply for a student who is required to repeat the first professional year; however, for the purposes of academic probation and dismissal the student will be given a "fresh start" GPA and the future GPA will be calculated by hand.

Academic Probation

Academic probation will be imposed upon a student when the student's academic performance meets any or all of the following conditions:

1. The grade point average earned at the conclusion of the first term of the first professional year, or the cumulative grade point average at the conclusion of any term thereafter, is less than 2.33.
2. The grade point average earned for any one term is less than 2.00 for terms after the first term of the professional year.
3. The student earns less than a C- in any course.

A period of academic probation will be in effect during the term immediately following the conclusion of the term in which the student's academic performance meets the conditions for imposition of probation. If at the conclusion of the term during which a period of probation is in effect the student's academic performance continues to meet any or all of the conditions for imposition of probation, the student may be subject to dismissal. If at the conclusion of the term during which a period of probation is in effect the student's academic performance no longer meets the conditions for imposition of probation, another period of probation will not be imposed.

During any term of probation, a student may not be elected to any office in any College or Campus recognized organization. Although not required, it is strongly suggested that any student who is placed on academic probation resign any and all office(s) currently held. A student on probation is not permitted to represent the College or Campus in any official capacity and is not eligible to travel on college funds.

Academic Deficiency

A student may not progress in the curriculum with an "F" earned in any course. Within an academic year the student must receive permission of the Academic Standing Progression Promotion Review Committee in order to proceed to the spring term. Students are not eligible to begin the next academic year until the course in which the "F" was earned has been repeated and the grade earned is a C- or better. When any course is remediated, both the original grade made in the course and the newly earned grade will be used for the determination of the student's overall cumulative grade point average.

Academic Dismissal Recommendation

A student will be subject to dismissal when any one or more of the following conditions are met:

1. Academic performance at the conclusion of any term is so poor as to predict strongly an inability to meet the overall requirements of the curriculum. It is recognized that this situation is most likely to occur during the first professional year, and may occur without a probationary period being imposed;
2. A period of probation is imposed for a second time;
3. Regardless of GPA, a student who receives < C- in two courses throughout the curriculum;
4. A student who fails to meet graduation requirements within 6 consecutive years of enrollment, including time spent on leave of absence or due to remediation;
5. Students with outstanding deficiencies (e.g., grade of "F") in the professional curriculum may not register for courses in the next professional term or for subsequent clinical rotations without affirmative action by the Academic Standing and Promotion Review Committee of the College.

Notification of Probation or Dismissal

The Associate Dean, Academic Affairs, will notify a student in writing if he/she meets the criteria for probation or dismissal or who has a deficiency.

Appeals

Students may appeal any academic action to the Academic Standing and Promotion Review (ASPR) Committee. Appeals generally occurring at the end of the spring and fall terms and will be heard during the first week of the summer and winter terms, respectively. Information regarding the appeal procedure can be obtained from Associate Dean for Academic Affairs. The appeal must be submitted, in writing, within five calendar days of receipt of notification of action. After the ASPR committee hears the student's appeal and reviews available materials, the committee will make a recommendation to the Dean who will render a decision on the appeal. The decision of the Dean is final in such cases, however, in the case where a student is dismissed, the student has the right to appeal to the Chancellor for readmission to the program if the student believes there were inherent flaws or biases in the process leading up to dismissal.

During the College appeals process, a student who desires to continue attending classes may do so with the permission of the College and after providing a written request to the Office of the Registrar. Auditing of courses involving clerkships/clinical experiential experiences may not be allowable; thus, students seeking to enroll as non-degree students in such courses must seek additional guidance from the College and obtain written permission to enroll. Upon receipt of the student's written request, which must be received within five (5) business days of the notice of dismissal, the student will be enrolled in classes as an audit student. Such permission will not be granted if the appeal process extends more than one term following the original committee action recommending dismissal. In instances in which the appeal process extends into a second term the student will be withdrawn. The status of the student will not change again until and unless his/her appeal is upheld and the University reinstates him/her as a student in good standing. Additional information regarding the UTHSC campus policy can be found at: https://academic.uthsc.edu/policy_docs/student_status_appeals.php

Readmission Process

Unless a student has been permanently dismissed from the College, he/she may reapply for admission to the College, but must compete for admission with the other applicants for the entering class in that year.

Requirements for Graduation

In order to be awarded the Doctor of Pharmacy degree, a student must have completed all degree requirements and complied with the following conditions:

1. Student must have been in residence as a registered student pharmacist in an acceptable college of pharmacy for at least four academic years; at least the last two academic years must have been in the UT College of Pharmacy;
2. Student must have attained a final cumulative grade point average of 2.33 or above (on a 4.0 scale) *and* achieve a passing grade in all required courses in the professional curriculum;
3. Didactic and experiential courses in which an "F" was received must have been successfully remediated.
4. Student must complete the Doctor of Pharmacy curriculum within six years of beginning the program, including any time taken for a leave of absence;
5. Student must have discharged all their financial obligations to the College and University.

Awarding Degrees and Attendance at Commencement

Degrees are conferred either during commencement (May or December) or on the third Friday in August following completion of requirements, with diplomas issued after degrees are conferred. Students must be enrolled in, or completing, at least one credit hour during the term of graduation. Students receiving degrees either in May or December are required to attend commencement. Those students unable to attend must petition the Dean in writing to receive their degree *in absentia* at least two weeks prior to commencement.

Diplomas will be available for August graduates five business days after the degree conferral date. The student must then make arrangements with the Registrar for pick-up or delivery of his/her diploma. Diplomas will not be released to anyone (spouse, friend or family member) other than the graduated student without written authorization that grants specific permission from the student. The Registrar may release diplomas to a designated college official on written request from the Dean. Diplomas will not be released to any graduate whose record shows an official account 'hold'. Students should check Banner Self Service in advance of graduation to identify and address remaining obligations related to these 'holds'.

Graduating with Honors

The College of Pharmacy is authorized to grant honors for academic excellence. Students may graduate with honors, with high honors, or with highest honors in accordance with appropriate cumulative grade point averages based on performance in the professional curriculum only. Determination of honors will be made at the end of the fall term of the 4th academic year. Grade Point Designation is as follows:

- 3.50 - 3.69 with honors
- 3.70 - 3.84 with high honors
- 3.85 - 4.00 with highest honors

Licensures

In order to become a licensed pharmacist, graduates are required to successfully pass the NAPLEX and MPJE (national licensure examinations).

Tennessee Licensure

Internship requirements of the Tennessee Board of Pharmacy include a specified minimum of 1500 clock hours. Pharmacy experience obtained after enrollment is allowed toward fulfillment of the Board requirements. The Board accepts 1100 clock hours of credit for certain clinically-oriented courses (rotations and externships) in the pharmacy curriculum. The student is responsible for obtaining the additional 400 hours required for licensure.

Licensure in other states

Pharmacists may become licensed in other states through two mechanisms: by Board examination in the individual state and by reciprocity of license from one state to another. In either method, application must be made to the Board of Pharmacy in the State for which licensure is desired.

SPECIAL HONORS AND AWARDS

P3 Awards *(awarded at the P3 Pinning Ceremony)*

Therapeutics Award - The Department of Clinical Pharmacy presents this award to the student pharmacist who has not only demonstrated academic excellence in the six part therapeutics course series, but has proficient in applying therapeutics knowledge to an individual patient.

The John H. Rodman Scholar Award - This accolade is presented to the student who achieved outstanding academic performance in the pharmacogenomics, pharmacokinetics and applied pharmacokinetics courses.

Medicinal Chemistry Award - The recipient of this award has demonstrated outstanding academic performance in the area of Medicinal Chemistry, as determined by the faculty in the department of pharmaceuticals science.

The Atul J. Shukla Pharmaceuticals Award - The recipient demonstrated outstanding performance in the three pharmaceuticals course series and is judged by the department of pharmaceuticals science faculty to have exhibited outstanding professional characteristics.

Pharmacy Administration Award - Is presented to the student pharmacist who achieved a high scholastic average in all pharmacy administration courses and is recommended by the faculty in the Department of Clinical Pharmacy.

Excellence in Non-prescription Medication - Presented to the student who has exhibited outstanding academic performance in the study of non-prescription medications.

Professionalism Award - This award is chosen by student colleagues and is presented to the student pharmacists deemed as the most professional in their Class.

Leadership Award - This award is selected by student colleagues and is presented to the students deemed to have exhibited admirable leadership qualities during their tenure as a student in the College.

Community Service Award - This award is selected by students in the class and is generally awarded to two students that have invested significant time and energy during their time as a student to improve the health of Tennesseans.

P4 Awards *(awarded at the Honors, Awards, and Hooding Ceremony)*

Valedictorian - The recipient will be the graduating student who has achieved the highest academic average in the professional pharmacy curriculum.

Salutatorian - The recipient will be the graduating student who has achieved the second highest academic average in the professional pharmacy curriculum.

Health Systems Pharmacists Leadership Award - Presented to the graduating student who has displayed an interest in institutional pharmacy practice and involvement in professional pharmacy organizations either student groups, state societies or national organizations. The recipient should have leadership experience with these groups and be in the upper one-half of his/her class.

ASHP Clinical Skills Competition Award - This award recognizes the student team who won the Clinical Skills Competition within the College and represented the College at the annual meeting of the American Society of Health-System Pharmacists.

APhA-ASP Chapter Leadership Award - This award is given to the student(s) who have demonstrated exemplary leadership within the University of Tennessee College of Pharmacy American Pharmacists Association-Academy of Student Pharmacists chapter.

APhA-ASP National Leadership Award - This award is presented to a student pharmacist who has made a significant contribution to the profession of pharmacy through regional or national elected or appointed service within the American Pharmacists Association.

APhA-ASP Patient Counseling Award - This award is presented to the graduating student(s) who won the College's Patient Counseling Competition and subsequently competed at the annual meeting of the American Pharmacists Association.

SNPhA Leadership Award - The Student National Pharmacist Association recognizes a student from their membership who has demonstrated outstanding leadership.

Tom Sharp Sr. Leadership Award - The recipient is a student pharmacist who has not only demonstration leadership, but has advanced the profession of pharmacy through active participation in the Tennessee Pharmacists Association.

The Martin L. Hamner Award - This award is given to the student who served as Honor Council president.

The John Butler Award - This award is presented to the graduating student who has exhibited outstanding leadership and interest in institutional, administrative, and management areas.

Excellence in Public Health Pharmacy Practice - The U.S. Public Health Service presents this award to the graduating student who has demonstrated a commitment to public health and public health practice.

Pfizer Pharmaceuticals Outstanding Leader - The graduating student who has displayed accomplishment as a leader; nonacademic characteristics common in a leader; and is in the top 25% of the class.

Teva Pharmaceuticals Outstanding Student Award - Presented to the graduating student who excels in the study of pharmacy.

GlaxoSmithKline Clinical Patient Care Award - The graduating student who has demonstrated outstanding performance in community or hospital practice, communication skills, patient counseling, patient case presentation, therapeutic drug monitoring, drug information, Clinical Literature, health screening, etc.

Roche Pharmacy Communications Award - The recipient is selected on the basis of (1) demonstration of knowledge application in the practice of pharmacy to patients and to other health practitioners; (2) providing instructions and guidance to patients in the clinical practice of pharmacy; and (3) demonstration of commitment to the pharmacy profession, compassion towards patients and being career oriented.

Mylan Pharmaceuticals Excellence in Pharmacy Award - Recipient should be in upper 25% of class, demonstrate high professional motivation and the intent to enter practice upon graduation, demonstrate superior proficiency in provision of drug information services.

Facts and Comparisons Award Of Excellence in Clinical Communication - Recipient should be in top 25% of class academically and demonstrate superior verbal and written clinical communication skills.

Merck Award (2 awards) - Outstanding performance in the senior class. The specific criteria area: (1) academic excellence; (2) qualities that warrant other recognition.

Outstanding Student Award - The graduating student selected by classmates as the person possessing the professional characteristics of an outstanding future pharmacy practitioner.

Feurt Scholars Award - Recognizes graduates who are in the dual Pharm.D./Ph.D. program.

Nuclear Pharmacy Certificate Recipients - The graduating students are recognized for their dedication and accomplishment in completing 224 hours of special training in basic radioisotope techniques.

Community Pharmacy Services Award - This award recognizes student commitment to provide healthcare for the citizens of Tennessee.

Community Pharmacy Leadership Award - This award recognizes a student's commitment to leadership within the community arena.

Rachel Welton Community Service Award - This award is presented to the graduating student for outstanding service to the community.

Natural Medicine Database Recognition Award - This is presented to the student who has exhibited special interest in natural medicines and evidence-based approach to natural medicines.

MAPS Outstanding Leadership Award - This award is presented by the Memphis Area Pharmacists Society to the outstanding leader in the graduating class.

MSCCP Outstanding Achievements in Clinical Pharmacy Practice - The recipient demonstrates outstanding commitment to the principles of clinical pharmacy and dedication to the promotion of pharmacy practice as a vital component of patient care.

Who's Who Among Students in American Universities and Colleges – Graduating students who have demonstrated academic performance, participation in extracurricular activities, and community service.

Academia Award - Presented to a student who has demonstrated a commitment to a career in academia.

CURRICULUM SUMMARY - PROFESSIONAL DEGREE PROGRAM

The Doctor of Pharmacy degree is granted upon successful completion of the professional curriculum and compliance with the requirements of the University for graduation. The course of instruction covers eight terms over four academic years (see Curriculum).

The curriculum includes lecture and laboratory courses that are delivered using a variety of pedagogy. Although students are introduced to the clinical environment as early as the fall term of the first professional year, clinical instruction is emphasized in the third and fourth years of the curriculum. During this time students receive experiential learning in traditional practice settings such as community and hospital pharmacy arenas as well as advanced clinical rotations in internal medicine, ambulatory care, pediatrics, mental health, parenteral nutrition, cardiology, critical care and other specialty areas.

Students may be required to complete a portion of the introductory and advanced practice experiences in various parts of the state. US rotations located outside Tennessee (e.g., Alaska, Arizona, North Carolina) and International professional experiences (e.g., England, New Zealand, Australia, Japan, Spain, Ireland, Sweden, Hungary, Gambia, Thailand, Turkey and France) are available to a limited number of students.

CPR Certification

All University of Tennessee College of Pharmacy students are required to obtain American Heart Association Healthcare Provider CPR certification by the end of their first academic term. Following initial certification, all University of Tennessee College of Pharmacy students must maintain active CPR certification during the P2, P3, and P4 years. Students will not be allowed to enter the subsequent year without approved CPR certification. For the convenience of UT College of Pharmacy students, the UT Chapter of the American Pharmacists Association-Academy of Student Pharmacists (APhA-ASP) offers American Heart Association Healthcare Provider CPR that includes external defibrillation to first (during orientation) and third year students.

Content Areas

- A. Pharmacology
- B. Medicinal Chemistry
- C. Pharmacy Technology (including sterile product preparation and compounding)
- D. Therapeutics and Pathophysiology of Disease
- E. Communications and Patient Assessment
- F. Biopharmaceutics and Pharmacokinetics
- G. Pharmacy Management and Pharmacoeconomics
- H. Medication Use Process
- I. Experiential learning (12 months)

First Professional Year (Class of 2017)

| Fall Term | Credit |
|---|-------------------|
| PHAR 111 Pharmacy Pharmacology I | 4 (4-0) |
| PHSC 112 Medicinal Chemistry I | 4 (3-2) |
| PHCY 114 Pharmacy Math | 1 (1-0) |
| PHSC 125 Pharmaceutical Principles | 2 (2-0) |
| PHSC 126 Sterile Dosage Forms | 2 (2-0) |
| PHCY 115 Introduction to Pharmacy | 3 (2-2) |
| PHCY 116 Communications | 1 (1-0) |
| PHCY 117 Interprofessional Education and Clinical Simulation I | 1 (0-2) |
| Total | 18 (15-6) |
| Spring Term | Credit |
| PHCY 118 Immunization | 1 (1-0) |
| PHAR 121 Pharmacy Pharmacology II | 4 (4-0) |
| PHSC 122 Medicinal Chemistry II | 4 (3-2) |
| PHSC 123 Pharmaceutics | 3 (3-0) |
| PHSC 127 Pharmacy Compounding | 2 (1-4) |
| PHCY 121 Self Care and Non-Prescription Drugs | 3 (3-0) |
| PHCY 126 Introductory Pharmacy Practice Experience I (IPPE I)* | 1 (0-2) |
| PHCY 127 Interprofessional Education and Clinical Simulation (IPECS) II | 1 (0-2) |
| Total | 19 (15-10) |

* students complete over fall and spring terms of the first professional year

Second Professional Year (Class of 2017)

| Fall Term | Credit |
|--|------------------|
| PHCY 211 Therapeutics I | 3 (3-0) |
| PHCY 212 Therapeutics II | 3 (3-0) |
| PHCY 314 Clinical Literature Retrieval and Evaluation | 3 (2-2) |
| PHSC 212 Pharmacokinetics and Dose Optimization | 4 (3-2) |
| PHCY 217 Interprofessional Education and Clinical Simulation (IPECS) III | 1 (0-2) |
| Didactic Elective | 2 (2-0) |
| Total | 16 (13-6) |

| Spring Term | Credit |
|---|-------------------|
| PHCY 221 Therapeutics III | 3 (3-0) |
| PHCY 222 Therapeutics IV | 3 (3-0) |
| PHCY 223 Applied Therapeutics I | 2 (0-4) |
| PHCY 224 Applied Pharmacokinetics | 2 (1-2) |
| PHSC 222 Pharmacogenomics | 2 (2-0) |
| PHCY 215 Pharmacy Practice Management & Pharmacoeconomics | 3 (3-0) |
| PHCY 226 Introductory Pharmacy Practice Experience II (IPPE II)* | 1 (0-2) |
| PHCY 227 Interprofessional Education and Clinical Simulation (IPECS) IV | 1 (0-2) |
| Didactic Elective | 2 (2-0) |
| Total | 19 (14-10) |

* Students complete over the fall and spring terms of the second professional year

Third Professional Year (Class of 2017)

| Fall Term | Credit |
|--|------------------|
| PHCY 311 Therapeutics V | 3 (3-0) |
| PHCY 312 Therapeutics VI | 3 (3-0) |
| PHCY 313 Applied Therapeutics II | 2 (0-4) |
| PHSC 223 Medication Therapy Management | 3 (2-2) |
| PHCY 315 Pharmacy Law | 3 (3-0) |
| PHCY 317 Interprofessional Education and Clinical Simulation (IPECS) V | 1 (0-2) |
| Didactic Elective | 2 (2-0) |
| Total | 17 (13-8) |

Final Three Terms (Class of 2017)

Students must take the following during the last three terms (P-3 Spring, P-4 Fall, P-4 Spring). Students will be provided a list of rotations that are included in each of the following categories during the P3 fall term.

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| 1 month | APPE Community Rotation |
| 1 month | APPE Institutional Rotation |
| 1 month | APPE Ambulatory Care Rotation |
| 1 month | APPE Acute Care Inpatient Rotation |
| 4 months | APPE Patient Care Rotations |
| 3 months | APPE Elective Rotations (Patient Care or Other) |
| 1 month | Elective Courses (2 courses; 2 credit hours per courses) |
| 1 month | IPPE Rotations (PHCY 370 IPPE Community & PHCY 371 IPPE Institution) (2 weeks each which may also be taken during summer between the P1 and P2 years, P2 and P3 years, or January or February of the P3 spring term.) |
| 2 months | OFF |

Elective Policy

1. All students will take a minimum of 10 credit hours of didactic electives.
2. All students will take a minimum of 2 credit hours of electives in the P-2 Fall, P-2 Spring, and P-3 Fall term (for a total of 6 credit hours of electives before the end of the P-3 Fall term).
3. All students will take a minimum of 1 month of electives in the last 3 terms of the program (the P-3 Spring, P-4 Fall, or P-4 Spring terms) for a minimum total of 4 credit hours. While most will take 4 hours in one month, a student will also be allowed to spread the 4 hours over 2 months if they choose.
4. Students enrolled in the Informatics certificate program may obtain 9 hours of elective credit through that program.
5. Students enrolled in a Masters of Business Administration degree program may receive up to 6 hours of elective credit through that program. The student is responsible to obtain and submit the necessary paperwork to obtain such credit. Information regarding requirements can be obtained from the Associate Dean, Academic Affairs.

Nuclear Pharmacy Certificate Program

The UT College of Pharmacy Nuclear Pharmacist Certificate Program consists of three courses pharmacy students are eligible to enroll in after successfully completing their second year of professional education: PHSC 257, Introduction to Nuclear Pharmacy; PHSC 258, Basic Nuclear Pharmacy; & PHSC 313, Advanced Nuclear Pharmacy. The courses provide 200 hours of classroom and laboratory instruction that are credited toward the 700 hours required by the NRC to be an authorized nuclear pharmacist. The remaining 500 hours of experiential training can be acquired during nuclear pharmacy rotations (PHSC 440, Nuclear Pharmacy I & PHSC 439, Nuclear Pharmacy II), internships, and working under the direct supervision of an authorized nuclear pharmacist either as a pharmacy student or after graduating. Documentation of hours from the didactic program and the experiential training are required in order to be listed as an authorized nuclear pharmacist on a pharmacy or hospital radioactive materials license.

COURSE DESCRIPTIONS *(presented by department)*

Department of Pharmacology

- PHAR 111 Pharmacy Pharmacology I** *Credit: 4 (4-0)* This required course is designed to give students a fundamental knowledge of the interactions between drugs and living systems. Drug mechanisms of action and drug interactions are emphasized. Principles of drug metabolism, synergism, antagonism, accumulation and toxicity are also discussed. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Suleiman Bahouth (Fall).
- PHAR 121 Pharmacology II** *Credit: 4 (4-0)* This required course is a continuation of PHAR 111, Pharmacology I. *Mode of delivery:* Didactic. *Offered:* Spring. *Instructor of Record:* Parker Suttle (Spring).

Department of Clinical Pharmacy

- PHCY 114 Pharmacy Math** *Credit: 1 (1-0)* This required course is designed to teach the fundamentals of pharmaceutical calculations that are required in the compounding and dispensing of a prescription. It is taught during the first 3 weeks of the Students will apply appropriate mathematical concepts using typical situations that are encountered during the practice of pharmacy. The course will emphasize aspects of basic mathematics and logical skills needed to perform pharmaceutical and clinical calculations essential to ensure that the right dose and strength of a medication or nutritional are given. The pedagogy for this course is predominately Didactic. *Mode of delivery:* Didactic, skills-based. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Michael Christensen (Fall).
- PHCY 115 Introduction to Pharmacy** *Credit: 3 (2-2)* This course provides an introduction to the profession of pharmacy. Material centers on health delivery models, the environment in which health care is rendered, and interprofessional care with a focus on the roles of the pharmacist. Students learn about a variety of career opportunities and will self-assess their potential interest using the APhA Career Pathways Program. This course will also enhance the student's understanding of professionalism and the responsibility of a pharmacist is society and the health care system. The course examines the role of human professional behaviors and values as mediators of health and illness, with a focus on health care disparities and health literacy. Didactic and team-based learning. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Stephanie Phelps (Fall).
- PHCY 116 Communications** *Credit: 1 (1-0)* This required course emphasizes interpersonal and interprofessional relationships, patient counseling skills, and communication skills as they relate to pharmacy practice. *Mode of delivery:* Didactic, team-based learning. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Christa George (Fall).
- PHCY 117 Interprofessional Education and Clinical Simulation (IPECS) I** *Credit: 1 (0-2)* Pass/Fail This required course is designed to use clinical simulation (encompassing the use of standardized patients, colleagues, task trainers, high fidelity human patient simulators, or virtual reality simulations) as a way to teach and assess skills-based activities essential to pharmacy practice. The course will also include interprofessional exercises with the expressed purpose of bringing together learners from two or more health professions to increase mutual respect and understanding of their unique roles and perspectives, to enhance collaboration and communication, and to improve patient outcomes. *Mode of delivery:* Team-based learning, clinical simulation, interprofessional education. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Stephanie Phelps (Fall).

- PHCY 118 Immunization** *Credit: 1 (1-0) Pass/Fail* This required course prepares student pharmacists to assume the role of a vaccine advocate. The course consists of an 8-hour self-study learning program, which provides in- depth knowledge on implementing a pharmacy immunization program, clinical as well as practical considerations of vaccine administration, and a guide to reference books published by the Centers for Disease Control and Prevention. The second part consists of a half day highly interactive didactic and laboratory classes designed to reinforce the self-study material. This combined program addresses areas of immunization needs, compensation, marketing, legal and regulatory issues, and injection-technique training. At conclusion of the course students receive APhA Certification in Immunizations. *Mode of delivery:* Didactic and skills-based. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Stephan Foster (Spring).
- PHCY 121 Self-Care and Nonprescription Drugs** *Credit: 3 (3-0) Pass/Fail* Through didactic instruction, online quizzes and multiple choice exams this required course is designed to provide the first year student pharmacist with the information needed to: 1) recognize conditions that are self-treatable with nonprescription drugs and complementary alternative medicine; 2) assess patient's needs, risk factors, and potential for adverse events; 3) assist with product selection; 4) advise and counsel patients on therapeutic options and outcomes of therapy; and 5) recognize appropriate physical assessment techniques needed to evaluate a patient's medical condition and response to pharmacotherapy. The student should also be able to identify laws that govern nonprescription therapy. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Amanda Howard-Thompson (Spring).
- PHCY 126 Introductory Pharmacy Practice Experience (IPPE) I** *Credit: 1 (0-2) Pass/Fail* The course consists of a variety of early learning experiences that begin in the fall term of the first professional year (P1). The program provides a foundation for professional development by focusing on seven core areas: Professionalism, Shadow Learning, Service Learning, Professional Development, Patient Care, Practice Skills, and Experiential Learning. The importance of HIPAA is stressed in this course. The program is designed to prepare student pharmacists for the Advanced Pharmacy Practice Experiences (APPE), which comprise the final three terms of the curriculum. Activities in this course occur in both the fall and spring terms with credit being assigned in the spring term. *Mode of delivery:* Didactic, team-based learning, skills-based learning. *Pre-Requisites:* None; CPR certification *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Stephan Foster (Spring).
- PHCY 127 Interprofessional Education and Clinical Simulation (IPECS) II** *Credit: 1 (0-2) Pass/Fail* This required course is a continuation of PHCY 117 and is designed to use clinical simulation (encompassing the use of standardized patients, colleagues, task trainers, high fidelity human patient simulators, or virtual reality simulations) as a way to teach and assess skills-based activities essential to pharmacy practice. The course will also include interprofessional exercise with the expressed purpose of bringing together learners from two or more health professions to increase mutual respect and understanding of their unique roles and perspectives, to enhance collaboration and communication, and to improve patient outcomes. *Mode of delivery:* Team-based learning, clinical simulation, interprofessional education. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Stephanie Phelps (Spring).
- PHCY 211 Therapeutics I** *Credit: 3 (3-0)* This required course consists of lectures designed to develop the student's ability to apply principles and concepts in the area of cardiovascular disease and therapeutics. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Rebecca Chhim (Fall).
- PHCY 212 Therapeutics II** *Credit: 3 (3-0)* This required course is designed to develop the student's ability to apply principles and concepts of therapeutics. The primary focus will be management of major diseases including diabetes, acute and chronic kidney diseases, fluids and electrolytes, and respiratory disorders. The etiology and pathophysiology of these diseases will be presented to the extent needed to thoroughly understand the therapeutic management. Emphasis will be placed on selection and evaluation of rational drug therapy, design of effective therapeutic regimens, and clinical monitoring of drug response using appropriate laboratory and physical measures. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Joanna Hudson (Fall).

- PHCY 213 Patient Assessment** *Credit: 1 (1-0)* This required course focuses on the development of physical assessment skills necessary to monitor drug therapy and assess common complaints that may be encountered in the delivery of pharmaceutical care. The course also prepares student pharmacists to monitor patients for optimal drug effects as well as adverse effects. The students will learn to take a complete history and perform a physical examination using case studies of common acute and chronic diseases. Role-playing will be a part of the program. (Will be discontinued in the fall of 2014). *Mode of delivery:* Didactic and lab and skills-based learning. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Stephan Foster (Fall).
- PHCY 215 Pharmacy Practice Management & Pharmacoeconomics** *Credit: 3 (3-0)* This required course acquaints students with the basic principles of management including planning, organizing, directing, coordinating, and controlling a practice, business, or organization. Attention is focused on management of capital, time, inventory, and human resources. *Mode of delivery:* Didactic, team-based project. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* David Solomon (Spring).
- PHCY 217 Interprofessional Education and Clinical Simulation (IPECS) III** *Credit: 1 (0-2)* Pass/Fail This required course is designed to use clinical simulation (encompassing the use of standardized patients, colleagues, task trainers, high fidelity human patient simulators, or virtual reality simulations) as a way to teach and assess skills-based activities essential to pharmacy practice. The course will also include interprofessional exercise with the expressed purpose of bringing together learners from two or more health professions to increase mutual respect and understanding of their unique roles and perspectives, to enhance collaboration and communication, and to improve patient outcomes. (will be implemented in the Fall of 2014). *Mode of delivery:* Team-based learning, clinical simulation, interprofessional education. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* (not currently offered).
- PHCY 221 Therapeutics III** *Credit: 3 (3-0)* This required course consists of lectures and reading assignments designed to prepare the student to apply principles and concepts of clinical therapeutics to the prevention and treatment of specific diseases. Primary topics covered in this course include the clinical presentation, microbiology, and treatment of common bacterial, viral, and fungal infectious diseases with the exception of HIV. *Mode of delivery:* Didactic, recitations. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Chris Wood (Spring).
- PHCY 222 Therapeutics IV** *Credit: 3 (3-0)* This required course consists of lectures and recitations related to liquid and solid transplantation and HIV. The course is designed to develop the student's ability to apply principles and concepts of clinical therapeutics to the care of patients with specific illnesses. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Ben Duhart (Spring).
- PHCY 223 Applied Therapeutics I** *Credit: 2 (0-4)* Is a required course that introduces concepts of pharmaceutical care into the curriculum by placing students in the clinical environment during the spring term of the 2nd professional year. Students will have responsibilities for direct patient contact and will be required to present patient cases and their care plan during weekly small group recitations. *Mode of delivery:* Pedagogy: team- based experiential learning. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Cathy Herrington (Spring).
- PHCY 224 Applied Pharmacokinetics** *Credit: 2 (1-2)* This required course consists of lectures and recitations on the practical application of pharmacokinetic theory as it relates to the individualization of patient drug therapy, through the proper interpretation of drug serum concentrations. *Mode of delivery:* Didactic and recitation sessions. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* S. Casey Laizure (Spring).

- PHCY 226** **Introductory Pharmacy Practice Experience (IPPE) II** *Credit: 1 (0-2) Pass/Fail* The second course in the IPPE program is designed to prepare student pharmacists for the Advanced Pharmacy Practice Experiences (APPE). The second year of the program builds on the foundation of laid in PHCY 126, Introductory Pharmacy Practice Experience I, (e.g., Professionalism, Shadow Learning, Service Learning, Professional Development). Activities in this course occur in both the fall and spring terms with credit being assigned in the spring term. *Mode of delivery:* Didactic, team-based learning, skills-based learning. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Stephan Foster (Fall); Stephan Foster (Spring).
- PHCY 227** **Interprofessional Education and Clinical Simulation (IPECS) IV** *Credit: 1 (0-2) Pass/Fail* This required course is a continuation of PHCY 217 and is designed to use clinical simulation (encompassing the use of standardized patients, colleagues, task trainers, high fidelity human patient simulators, or virtual reality simulations) as a way to teach and assess skills-based activities essential to pharmacy practice. The course will also include interprofessional exercise with the expressed purpose of bringing together learners from two or more health professions to increase mutual respect and understanding of their unique roles and perspectives, to enhance collaboration and communication, and to improve patient outcomes. (Will be implemented in the spring of 2015). *Mode of delivery:* Team-based learning, clinical simulation, interprofessional education. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* (not currently offered).
- PHCY 240** **Special Problems in Pharmacy I** *Credit: 1-3* The purpose of this elective course is to allow students to design and implement a specific project in pharmacy. After completion of the project a written report is required and must be submitted to the department chair. The course may not be repeated; however, a student interested on continuing work on a specific project may enroll in PHCY 241 or 242. *Mode of delivery:* Critical thinking and skills-based learning. *Pre-Requisites:* None *Co-Requisites:* None May not be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Richard Helms (Fall); Andrea Franks (Spring).
- PHCY 241** **Special Problems in Pharmacy II** *Credit: 1-3* An elective continuation of 240 PHCY, Special Problems in Pharmacy I. Maximum 3 credit hours. The course may not be repeated; however, a student interested on continuing work on a specific project may enroll in PHCY 242. *Mode of delivery:* Critical thinking and skills-based learning. *Pre-Requisites:* PHCY 240 *Co-Requisites:* None May not be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Andrea Franks (Fall); Andrea Franks (Spring).
- PHCY 242** **Special Problems in Pharmacy III** *Credit: 1-3* An elective continuation of 241 PHCY, Special Problems in Pharmacy II. Maximum credit is 3 hours. *Mode of delivery:* Critical thinking and skills-based learning. *Pre-Requisites:* PHCY 241 *Co-Requisites:* None May not be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Richard Helms (Fall); Andrea Franks (Spring).
- PHCY 244** **Drugs of Abuse** *Credit: 2 (2-0)* This elective course explores current trends and knowledge about drugs and substances of abuse or misuse. Emphasis is directed toward the problems of drugs and society, recognition of substance abuse, acute and chronic effects, treatment options, recovery programs and the role and responsibilities of pharmacists. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Peter Chyka (Fall).
- PHCY 245** **Clinical Toxicology** *Credit: 2 (2-0)* This elective course discusses the recognition, management and prevention of common poisonings by medications, household products and industrial chemicals in children and adults. *Mode of delivery:* Didactic and case discussion. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Peter Chyka (Fall).

- PHCY 249 Community Pharmacy** *Credit: 2 (2-0)* This elective course is designed to provide the student with the basic principles of community pharmacy management. The course will help students learn to solve problems in pharmacy location analysis, obtaining capital, purchasing, inventory control, pricing of products and services, financial analysis, computer applications, and pharmacy security. The pedagogy for this course is predominately Didactic and group discussion. *Mode of delivery: Didactic. Pre-Requisites: None Co-Requisites: None Offered: Spring.*
- PHCY 256 Personal Finance and Financial Planning** *Credit: 2 (2-0)* This elective will help students gain a solid understanding of the principles that impact personal financial decisions, including those concepts of financial planning and investing necessary to meet personal goals. The pedagogy for this course is predominately Didactic. *Mode of delivery: Didactic. Pre-Requisites: None Co-Requisites: None Offered: Spring. Instructor of Record: Nancy Knous (Spring).*
- PHCY 257 Top 200 Drugs** *Credit: 2 (2-0)* An elective course that will familiarize the student with the generic and common brand names, appropriate dosages, indications, contraindications, and common side and adverse effects of the 200 most commonly prescribed medications. Some basic pharmacology of the major drug classes will also be included in the lecture material. *Mode of delivery: Didactic. Pre-Requisites: None Co-Requisites: None Offered: Fall, Spring. Instructor of Record: Michael Christensen (Fall); Marilyn Lee (Spring).*
- PHCY 258 Design and Conduct of Clinical Research Studies** *Credit: 2 (2-0)* The objective of this elective course is to outline for students and trainees the process of conducting clinical research from a scientific, ethical, regulatory and managerial perspective. Educational activities that will complement various didactic presentations include review of original research articles, observation of an ongoing clinical research project, and preparation and presentation of a clinical research protocol by the participants. *Mode of delivery: Didactic. Pre-Requisites: None Co-Requisites: None Offered: Fall. Instructor of Record: Bradley Boucher (Fall).*
- PHCY 259 Complementary and Alternative Medicine** *Credit: 2 (2-0)* This elective course will familiarize the student with the most current complementary and alternative medicines used in the community setting. Common products, appropriate dosages, indications, contraindications, and common side and adverse effects will be addressed. The course will also discuss evidence-based medicine in this practice arena. *Mode of delivery: Didactic. Pre-Requisites: None Co-Requisites: None Offered: Spring. Instructor of Record: Sahar Rashed (Spring).*
- PHCY 260 CPR Instruction** *Credit: 2 (2-0)* Students enrolled in this elective course will become certified as American Heart Association Instructors in Healthcare Provider CPR. They will be responsible for teaching CPR to student pharmacists and to the community. *Mode of delivery: Didactic and skills-based. Pre-Requisites: None Co-Requisites: None Offered: Fall. Instructor of Record: Kelly Rogers (Fall).*
- PHCY 262 Interprofessional Education and Clinical Simulation (IPECS) Teaching Assistant I** *Credit: 2 (1-2)* This elective allows a second or third year student pharmacist to serve as a teaching assistant in the IPECS course (PHCY 117). The student will assist in teaching the basics of a complete history and physical examination using case studies of common acute and chronic diseases. Role-playing will be a part of the program. The student spends time each week discussing teaching techniques and 4 hours per week in laboratory teaching. *Mode of delivery: Skills based, interprofessional, and simulation. Pre-Requisites: None Co-Requisites: None Offered: Fall. Instructor of Record: Chasity Shelton (Fall).*
- PHCY 263 Interprofessional Education and Clinical Simulation (IPECS) Teaching Assistant II** *Credit: 2 (1-2)* This elective allows a second year student pharmacist to serve as a teaching assistant in the IPECS course (PHCY 127). The student will assist in teaching the basics of a complete history and physical examination using case studies of common acute and chronic diseases. Role-playing will be a part of the program. The student spends time each week discussing teaching techniques and 4 hours per week in laboratory teaching. *Mode of delivery: Skills based, interprofessional, and simulation. Pre-Requisites: None Co-Requisites: None Offered: Spring. Instructor of Record: Chasity Shelton (Spring).*

- PHCY 311 Therapeutics V** *Credit: 4 (4-0)* This required course consists of lectures and reading assignments designed to prepare the student to apply principles and concepts of clinical therapeutics to the prevention and treatment of specific diseases. Primary topics covered in this course include oncology, endocrinology, rheumatology, special populations (women's and men's health, geriatrics, pediatrics, pregnancy and lactation). (academic credit will be changed to 3(3-0) in 2015). *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* James Waddell (Fall).
- PHCY 312 Therapeutics VI** *Credit: 3 (3-0)* This required course consists of lectures designed to develop the student's ability to apply principles and concepts of clinical therapeutics to the care of patients with psychiatric and neurologic illnesses. *Mode of delivery:* Didactic, problem-based. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Anthony Rowe (Fall).
- PHCY 313 Applied Therapeutics II** *Credit: 2 (0-4)* Pass/Fail A continuation of PHCY 223, Applied Therapeutics I. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Catherine Herrington (Fall).
- PHCY 314 Clinical Literature Retrieval and Evaluation** *Credit: 3 (2-2)* This course consists of lectures, recitations, and laboratory sessions designed to introduce pharmacy students to the resources available and services provided by the Drug Information Center and Library. In addition, it deals with the basics of experimental design, research methodology, and evaluation of the current drug literature. Emphasis is placed on search strategies and provision of drug and toxicology information to health care professionals. *Mode of delivery:* Didactic, skills based, problem solving. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Katie Suda (Fall).
- PHCY 315 Pharmacy Law** *Credit: 3 (3-0)* A study of the numerous laws, both statutory and regulatory, which govern and control the practice of pharmacy and the manufacturing, distribution, and dispensing of drug products; and the delivery of clinical pharmacy services. An exploration of the professional conduct for pharmacy practice is included. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Carol Schwab (Fall).
- PHCY 316 Introductory Pharmacy Practice Experience (IPPE) III** *Credit: 1 (0-2)* This is the third course in the IPPE program, which is designed to prepare student pharmacists for the Advanced Pharmacy Practice Experiences (APPE). The course builds on the foundation laid in 126 PHCY, Introductory Pharmacy Practice Experience I, and 226 PHCY, Introductory Pharmacy Practice Experience II (e.g., Professionalism, Shadow Learning, Service Learning, Professional Development). *Mode of delivery:* Skills based. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall (not currently offered).
- PHCY 317 Interprofessional Education and Clinical Simulation (IPECS) V** *Credit: 1 (0-2)* Pass/Fail This required course is designed to use clinical simulation (encompassing the use of standardized patients, colleagues, task trainers, high fidelity human patient simulators, or virtual reality simulations) as a way to teach and assess skills-based activities essential to pharmacy practice. The course will also include interprofessional exercise with the expressed purpose of bringing together learners from two or more health professions to increase mutual respect and understanding of their unique roles and perspectives, to enhance collaboration and communication, and to improve patient outcomes. (Will be implemented in the fall of 2015). *Mode of delivery:* Team-based learning, clinical simulation, interprofessional education. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring.
- PHCY 320 Home Infusion** *Credit: 2 (0-2)* This elective course will provide students with extensive learning opportunities in the field of home infusion. This course is designed to give students advanced exposure to home infusion beyond what is covered in other required courses. Topic areas include key issues in the development of the home infusion industry, most common business structures, reimbursement issues, and safety issues. Students will participate in class discussions, writing assignments, as well as take a final exam. *Mode of delivery:* Didactic and skills-based. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* D. Tony Powers (Spring).

- PHCY 321 Landmark Clinical Trials** *Credit: 2 (0-2)* This elective course prepares the student to define landmark clinical trials and their impact on evidence-based medicine, locate landmark clinical trials using information technology, identify and describe landmark clinical trials for different disease states and their impact on disease states, analyze and present clinical trials. Students will participate in class discussions, prepare an individual presentation, as well as taking quizzes and a final exam. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Mary Yates (Spring).
- PHCY 326 Medication Safety** *Credit: 2 (0-2)* This elective course increases student pharmacists' awareness of the causes of individual and system related medication errors. It reviews methods used to prevent the likelihood of errors in both the individual as well as the healthcare system. It also reviews professional ways to communicate and address errors of all types. This will be achieved through extensive didactic and practical learning experiences in the field of medication safety. Students will participate in reading and writing assignments, a project as well as take quizzes and a final exam. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Alicia Perry (Spring).
- PHCY 329 Public Health/Cardiology** *Credit: 2 (0-2)* This elective course will increase a student's understanding of public health by emphasizing cardiovascular health as an opportunity for pharmacy involvement and as a part of pharmaceutical care for every patient in their practice. Students will participate in class discussions and a number of group projects. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Not Offered (Spring).
- PHCY 330 Public Health Policy** *Credit: 2 (0-2)* This elective course will explore the historical and current impact of U.S. health policy. This will aid the student in becoming better oriented to pharmacy-related aspects of health policy and enhance their knowledge about tools that allow a practitioner to interface with the changing healthcare environment. Students will participate in class discussions, class projects and take a final exam. *Mode of delivery:* Didactic. *Offered:* Spring.
- PHCY 331 Public Health Pharmacy** *Credit: 2 (0-2)* This elective course will provide students with an understanding of public health as a career path and as opportunity for professional engagement and increase students' understanding of how this area can impact pharmaceutical care for every patient in their practice. Students will prepare a project and a presentation as well as take a final exam. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Not Offered (Spring).
- PHCY 332 Patient Assessment Teaching Assistant** *Credit: 1 (0-2)* An advanced elective course focusing on the application of physical assessment skills learned in PHCY 213, Patient Assessment. Participants will serve as teaching assistants in this course and will assist in the laboratory portion guiding current students in patient assessment skills under the supervision of the instructor. (Will be discontinued in the fall of 2014). *Mode of delivery:* Skills based. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Stephan Foster (Fall).
- PHCY 341 Drug Interactions** *Credit: 2 (0-2)* To provide students an elective experience that uses active learning to gain a greater depth of knowledge of selected clinically significant drug interactions. This builds on material covered in pharmacology and the Therapeutics series of courses. Students will participate in class discussion, complete a writing assignment and give an individual presentation. *Mode of delivery:* Didactic, problem solving, project. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Tim Self (Spring).
- PHCY 342 Advanced Nutrition Therapeutics** *Credit: 2 (2-0)* This elective course will provide the student with an advanced understanding of specialized nutrition therapeutics in both hospitalized and home patients. *Mode of delivery:* Didactic, team-based learning. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Emma Tillman (Spring).

- PHCY 343 Psychotherapeutics Elective** *Credit: 2 (2-0)* This elective course is designed to expand the students' knowledge of the basic principles of psychopharmacotherapy. The course will develop a familiarity with the "second-line" and "atypical" agents used in psychiatry, as well as expose the students to some of the controversies surrounding a number of therapeutic modalities. The course will require patient contact as a means of addressing the need for an awareness and understanding of the realities regarding psychiatric illness. *Mode of delivery:* Didactic and experiential. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Jason Carter (Spring).
- PHCY 345 Neonatal/Infant Elective** *Credit: 2 (2-0)* This elective course will focus on inpatient and ambulatory therapeutics in pediatric patients less than 1 year of life. The course will consist of lectures, case presentations, and a field trip. Each student will also be required to make a short presentation on a therapeutic controversy that affects this patient population. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring (not currently offered).
- PHCY 346 Critical Care Elective** *Credit: 2 (2-0)* This elective course will help students gain familiarity with the care and management of the critically ill patient. The course will assist in understanding the research associated with therapeutic interventions and provide a rationale for various treatment modalities utilized in a variety of diseases. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Joseph Swanson (Spring).
- PHCY 347 Pediatrics Elective** *Credit: 2 (2-0)* This elective course is designed to strengthen the student's knowledge of common pediatric problems and to increase their confidence in optimizing pharmacotherapy in the patient population. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Amy Potts (Spring).
- PHCY 348 Ambulatory Care Elective** *Credit: 2 (2-0)* This elective course will further prepare the doctor of pharmacy student for the required ambulatory care clerkship in the 4th professional year. Topics pertinent to the ambulatory patient will be discussed, with special attention given to drug selection and patient education. An emphasis will also be given to basic physical assessment. *Mode of delivery:* Didactic, skills based and team based learning. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall, Spring. *Instructor of Record:* Andrea Franks (Fall); Shawn McFarland (Spring).
- PHCY 350 Women's Health Elective** *Credit: 2 (2-0)* This elective will focus on a woman's life phases, including the young adult, midlife, mature and advanced years. Course content includes discussion on role and life cycle issues that affect health, patient/pharmacist interactions, physiology, sexuality and reproduction, etc. Particular emphasis will be placed on medication monitoring due to gender differences in disease presentation and incidence, pharmacokinetics, adverse effects, and on patient education. (course currently not offered). *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring (not currently offered).
- PHCY 351 Infectious Diseases Elective** *Credit: 2 (2-0)* This elective course is designed to strengthen the students' antibiotic knowledge so that he/she will be more confident in optimizing antimicrobial pharmacotherapeutics. Particular emphasis will be placed on knowing antibiotics; specifically, the therapeutic use, adverse effects, pharmacokinetics, and patient education issues associated with these agents. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Phillip Rogers (Fall); Anthony Guarascio (Spring).
- PHCY 352 Applied Infectious Disease Elective** *Credit: 2 (2-0)* This elective course will expose the student to the basic concepts of infectious disease pharmacotherapy, including microbiology, pharmacokinetics of anti-infective agents, and patient monitoring in the context of the hospitalized patient. Students will learn how to adequately evaluate, monitor, and manage anti-infective therapy in hospitalized patients. Students will also gain experience in presenting patient cases in a pharmacy rounds setting. Students will be responsible for participating in discussions, presenting patient cases, developing a pharmaceutical care portfolio as well as taking a final exam. *Mode of delivery:* Didactic and experiential. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Joyce Broyles (Fall).

- PHCY 353 Drug Induced Disease Elective** *Credit: 2 (2-0)* This elective course will enhance each student's knowledge with respect to the epidemiology, pathogenesis, and clinical presentation of selected major categories of adverse drug reactions and drug interactions. Students will also learn to recognize, evaluate, manage, and prevent adverse drug reactions and drug interactions. Students will be responsible for participating in class discussions, writing a paper as well as taking a final exam. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall, Spring. *Instructor of Record:* Christopher Finch (*Fall*); Christopher Finch (*Spring*).
- PHCY 354 Oncology Elective** *Credit: 2 (2-0)* This elective course will provide students with advanced learning opportunities in the field of oncology. Students will learn how to recognize the signs and symptoms of most common cancers, develop appropriate chemotherapeutic regimens for individual patient cases, and manage the common complications of drug therapy. Students will be responsible for a journal club presentation as well as taking a final exam. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Sundae Stelts (*Fall*); J. Aubrey Waddell (*Spring*).
- PHCY 355 Cardiology Elective** *Credit: 2 (2-0)* This elective course will provide students with advanced learning opportunities in therapeutics related to cardiology, which build upon knowledge gained in Therapeutics I. Students will be responsible for participating in class discussions, completing assignments, as well as taking a final exam. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Shannon Finks (*Spring*).
- PHCY 356 Palliative Care/Hospice Elective** *Credit: 2 (0-2)* The goal of this elective course is to provide the student with an introductory exposure to end of life care and the role of the pharmacists in palliative care. The student will learn to create medication care plans to manage pain and symptoms of terminally and chronically ill patients. Students will participate in class discussions, homework assignments, complete a journal club presentation as well as take a mid-term and final exam. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Amy Robbins (*Fall*).
- PHCY 358 Contemporary Issues in Pharmacy** *Credit: 2 (0-2)* This elective course will provide students with an in-depth look at contemporary issues affecting pharmacy practice. It is important that pharmacists are able to provide evidence-based responses to other health professionals or patients about the latest drug studies or controversy that might have been seen in professional journals or in the public domain (e.g.; internet, newspaper). The goal of the course is to provide students with the knowledge and skills to discover, assimilate and compile a proper response to contemporary issues that affect pharmacy practice. Students will be responsible for completing a written assignment as well as an individual presentation. In-class quizzes and a final exam will also be taken. *Mode of delivery:* Didactic, project, critical thinking. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* David Solomon (*Spring*).
- PHCY 360 Comprehensive Pharmacy Update** *Credit: 2 (0-2)* An elective course taught in the final term of the curriculum. This serves as an update to guidelines or to new therapies introduced since the completion of the Therapeutics series. It also serves as a review of core materials across the curriculum. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring (not currently offered).
- PHCY 362 Pharmacy and Professional Leadership** *Credit: 2 (0-2)* This elective course is designed to provide a foundation for the development of leadership skills by students in the professional degree program within the College of Pharmacy. Common traits of effective leaders will be discussed as well as an overview of several major leadership philosophies and styles. Other topic areas include small group dynamics, motivating others, and effective problem-solving. Self-awareness exercises will be conducted during the course as well providing other personal growth opportunities e.g., career planning, etc. Guest speakers will enrich the course by sharing leadership perspectives beyond the College of Pharmacy and the UTHSC campus. Students will be evaluated based on class participation, written assignments, and two exams during the term. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* (not currently offered).

- PHCY 366 Advanced Cardiac Life Support** *Credit: 2 (0-2)* Building upon the knowledge obtained from basic life support training, this elective course will provide the student with an extensive review of advanced cardiac life support (ACLS). The overall goal of this course is to introduce the pharmacy student to the role of a pharmacist on the resuscitation team and prepare the student for the American Heart Association (AHA) ACLS healthcare provider course. Students will be responsible for reading and writing assignments as well as taking quizzes and a final exam. *Mode of delivery:* Didactic and skills-based. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Kelly Rogers (Spring).
- PHCY 367 Diabetes Elective** *Credit: 2 (0-2)* This elective course will provide students with extensive didactic and learning opportunities in the field of diabetes. This course is designed to give students advanced exposure to diabetes therapeutics beyond what is covered in the Therapeutics series. Students will be responsible for completing daily writing assignments, as well as taking a mid-term and final exam. *Mode of delivery:* Team-based, skills-based. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* (not currently offered).
- PHCY 370 IPPE Community Pharmacy Rotation** *Credit: 2 (0-80)* A two-week introductory pharmacy practice experience (IPPE) required rotation in a community pharmacy setting. Students will work under the direction of a volunteer Faculty members practicing in that environment. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Stephan Foster (Spring).
- PHCY 371 IPPE Institutional Pharmacy Rotation** *Credit: 2 (0-80)* A two-week introductory pharmacy practice experience (IPPE) required rotation in an institutional pharmacy setting. The student will learn from a volunteer Faculty members practicing in the arena. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Stephan Foster (Spring).
- PHCY 400 Medicine I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of internal medicine. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 401 Medicine II** *Credit: 4 (0-160)* An advanced pharmacy practice experience (APPE) elective rotation continuation of 400 PHCY, Medicine I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 402 Medicine III** *Credit: 4 (0-160)* An advanced pharmacy practice experience (APPE) elective rotation continuation of 401 PHCY, Medicine II. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 407 Cardiology II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation continuation intended to build upon PHCY 410, Adult Cardiology I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 408 Nephrology** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics of nephrology. Student will focus on dose medications in patients with renal failure and on the medical management of patients with chronic renal failure who may be on dialysis. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).

- PHCY 409 Integrated Pharmacy Practice** *Credit: 4 (0-160)* This one-month advanced pharmacy practice experience (APPE) rotation is an elective patient care component of the experiential portion of the curriculum. The Integrated Pharmacy Practice rotation is an introduction of comprehensive clinical practice in a teaching hospital. This rotation is designed to enhance the student pharmacist's knowledge base and to apply Didactic material. The candidate will be responsible for applying appropriate pharmacologic therapy specific to patient diseases encountered in a variety of settings. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 410 Adult Cardiology I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of pharmacy in the area of cardiology. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 411 Adult Oncology** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of oncology. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 412 Adult Oncology II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 411 PHCY, Adult Oncology. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 413 Pulmonary** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of pulmonary medicine. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 414 Infectious Diseases I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of infectious diseases. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 415 Infectious Disease II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 414 PHCY, Infectious Diseases I. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 416 Gerontology I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of pharmacy in the area of gerontology. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 417 Gerontology II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 416 PHCY, Gerontology I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 418 Long Term Care I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation conducted in long term care facilities, or pharmacies which service such facilities, and which promotes the development of pharmacy practice skills appropriate for long term care facilities. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).

- PHCY 419 Long Term Care II** *Credit: 4 (0-160)* An advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 418 PHCY, Long Term Care I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (*Spring*).
- PHCY 420 Emergency Medicine** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of intensive care medicine. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (*Fall*); Rex Brown (*Spring*).
- PHCY 421 Palliative Care** *Credit: 4 (0-160)* This one-month advanced pharmacy practice experience (APPE) rotation is a learning experience directed at providing care for palliative care patients. Students participate in all aspects of transdisciplinary care as part of the Palliative Care Consult Team (PCCT). Students will interview inpatients and/or family members and participate in the palliative care consult process. Students are considered important members of the Palliative Care team and will work closely with other team members on palliative care issues. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (*Fall*); Rex Brown (*Spring*).
- PHCY 422 Critical Care Medicine I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation emphasizing the understanding and management of problems specifically related to critically ill patients, particularly trauma and surgical patients. Identification of patient problems according to major body systems and application of clinical therapeutics to the critically ill patient will be stressed. Specific topics discussed include hemodynamic and physiologic monitoring, pharmacokinetic considerations and infectious problems in the critically ill ICU patient. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (*Fall*); Rex Brown (*Spring*).
- PHCY 423 Critical Care Medicine II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of the 422 PHCY, Critical Care Medicine I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (*Fall*); Rex Brown (*Spring*).
- PHCY 424 Critical Care Medicine III** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of the 423 PHCY, Critical Care Medicine II. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (*Fall*); Rex Brown (*Spring*).
- PHCY 425 Surgery/Transplant** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of rational pharmacotherapeutics in the area of surgery or transplant. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (*Fall*); Rex Brown (*Spring*).
- PHCY 426 Specialty Pharmacy and Therapeutic Management** *Credit: 4 (0-160)* A one month advanced pharmacy practice experience (APPE) rotation in a pharmacy practice site which dispenses new and innovative therapies with an emphasis the patient medication management of those unique therapies. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (*Fall*); Rex Brown (*Spring*).

- PHCY 427 Government Rotation** *Credit: 4 (0-160)* This one-month advanced pharmacy practice experience (APPE) is an elective rotation. It is the classification for rotations involving the Indian Health Services, the United States Army, and the United States Air Force. This rotation involves, but is not limited to, direct patient care ensuring optimal healthcare delivery, application of clinical knowledge in management of acute conditions and chronic disease states, and the delivery of pharmaceutical care to the respective patient population. The Government Rotation provides the opportunity for student pharmacists to practice pharmacy outside the scope of traditional community and institutional settings. Student pharmacists are able to apply knowledge of pharmacotherapy in a unique setting that integrates both community and institutional pharmacy practice. Student pharmacists utilize communication skills by offering patient counseling on medications and by communicating with other healthcare providers as part of an interprofessional team. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 428 Health Policy** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation based at the University of Tennessee Clinical Education Center in Nashville. Student will participate in activities and projects related to health policy in State of Tennessee Government Agencies that interact with the healthcare system (especially Health Related Boards, TennCare, Departments of Health and Mental Health and Tennessee Bureau of Investigations). *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 429 Institutional Clinical Management** *Credit: 4 (0-160)* This advanced pharmacy practice experience (APPE) elective rotation will expose the student pharmacists to a career path in clinical coordination in a hospital department of pharmacy. This rotation provides the learner with knowledge of managing a broad scope of departmental operations including clinical practice operations. The rotation will provide the student with an opportunity to further develop leadership and management skills through the achievement of specific goals and objectives centered around acute care services. Additionally, the learner will play an integral role in the development of strategic initiatives to further improve upon the operational and clinical excellence in practice. *Mode of delivery:* Experiential learning, project. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 430 Pediatric I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of pediatrics. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 431 Pediatric II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 430 PHCY, Pediatric I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 432 Pediatric III** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 430 PHCY, Pediatric I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 433 Pediatric Oncology** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of pediatric oncology. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 434 Neonatology** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation that emphasizes the understanding and management of drug therapy issues related to the care of special problem newborns. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).

- PHCY 435 Obstetrics-Gynecology** *Credit: 4 (0-40)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of obstetrics-gynecology. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 436 Clinical Toxicology** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing experience with poisoning victims and the promotion of rational therapeutics for toxicologic problems. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 438 Clinical Pharmacogenomics** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation designed to enable the student to apply knowledge of pharmacogenomics as well as medication pharmacokinetics and pharmacodynamics to results of pharmacogenetic testing. The students will learn about the different computational tools necessary for integration of pharmacogenetics into routine patient care. Whenever possible, the students will participate in patient and clinician education with other professions, drug information, and quality improvement activities related to pharmacogenetics. *Mode of delivery:* Experiential. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 440 Nutrition I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of nutritional support. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 441 Nutrition II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 440 PHCY, Nutrition I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 442 Nutrition III** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 441 PHCY, Nutrition II. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 443 Pediatric Nutrition** *Credit: 4 (4-160)* A one-month advanced pharmacy practice experience (APPE) rotation on a consult service that provides prospective and continuous care, which requires daily involvement with patients and their caregivers. The student gains hands on experience in taking care of preterm neonates and children with unique nutritional needs and other medical needs such as appropriateness of antibiotics, diuretic therapy, gastrointestinal motility agents, pain management, etc. With supervision by pharmacy residents and Faculty, students are expected to monitor their assigned patients; formulate a plan and discuss their plan with the appropriate medical, nursing, and pharmacy staff; write parenteral nutrition solution orders; and write progress notes in the patient's medical record. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 444 Home Infusion Therapy** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation that emphasizes the development of clinical skills in the area of intravenous drug therapy conducted in the home. Such therapies include antibiotics, chemotherapy, pain control, nutrition and hydration. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).

- PHCY 449 Medication Therapy Management** *Credit: 4 (0-160)* This one-month advanced pharmacy practice experience (APPE) rotation offers real practical experience for students providing detailed consultations and therapy management. Students will collaborate with Physicians and other Health Care providers to maximize favorable outcomes for their patients. Students will conduct live Comprehensive Medication reviews with patients as well as Therapeutic interchanges to better manage their therapy. Students will work with pharmacists, and other pharmacy team members to learn the basic MTM billing procedures for Outcomes and Mirixa. MTM is the future of pharmacy and Students play an important role in using their clinical knowledge to better take care of their patients. *Mode of delivery:* Experiential learning, interprofessional education. May be repeated up to 12 hours *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 450 Ambulatory Care I** *Credit: 4 (0-160)* A one-month required advanced pharmacy practice experience (APPE) required rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of ambulatory care. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 451 Ambulatory Care II** *Credit: 4 (0-160)* A one-month elective advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 450 PHCY, Ambulatory Care I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 452 Ambulatory Care III** *Credit: 4 (0-160)* A one-month elective advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 451 PHCY, Ambulatory Care II. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 458 Chemical Dependency** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical knowledge and skills in the promotion of rational pharmacotherapeutics in the area of chemical dependency and alcohol and substance abuse. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 460 Drug Information I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of drug information. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 461 Drug Information II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation/ continuation of 460 PHCY, Drug Information I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 462 Therapeutic Quality Assurance** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised clinical experience to foster the development of concepts, knowledge and skills to enable implementation and participation in quality assurance activities in the institutional setting. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 463 Applied Pharmacokinetics** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation designed to focus on (a) clinical pharmacodynamics, (b) the basis for drug-specific target concentrations, including strengths and limitations of studies establishing the therapeutic ranges, and (c) recommended strategies for applying pharmacokinetic principles to individual patients. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).

- PHCY 464 Managed Care** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation in the area of managed care. This experience is completed at a managed care organization. *Mode of delivery:* Experiential learning, interprofessional education. May be repeated up to 12 hours. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 465 Clinical Research I** *Credit: 4 (0-160)* This one-month advanced pharmacy practice experience (APPE) rotation will involve the PharmD student in the procedures and techniques used in the laboratory analysis of patient samples from a variety of clinical studies. The student will learn proper procedures for sample preparation and analysis. Additionally, the student will learn several approaches to proper data handling, manipulation and preliminary statistical analysis. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 466 Clinical Research II** *Credit: 4 (0-160)* This one-month advanced pharmacy practice experience (APPE) rotation is a continuation of 465 PHCY, Clinical Research I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 470 Mental Health I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation providing supervised development of clinical skills and concepts in the application and promotion of rational pharmacotherapeutics in the area of mental health. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 471 Mental Health II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 470 PHCY, Mental Health I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 472 Pharmacy Informatics** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation that addresses the issues of pharmacy computer systems for both inpatients and outpatients, automated dispensing devices, computerized prescriber order entry, and bedside barcode systems. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 477 Therapeutics Drug Monitoring** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation designed to focus on clinical pharmacodynamics, basis for drug-specific target concentrations, including strengths and limitations of studies establishing the “therapeutic ranges” and recommended strategies for applying pharmacokinetic principles to individual patients. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 478 Compounding Pharmacy I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation in a community pharmacy setting which emphasizes compounding unique formulations that satisfy unique patient needs. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 479 Compounding Pharmacy II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation/continuation of 478 PHCY, Compounding Pharmacy I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 480 Advanced Community Practice I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) required rotation conducted in community pharmacies and which promotes the development of practice skills in comprehensive pharmaceutical care. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).

- PHCY 481 Advanced Community Practice II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 480 PHCY, Advanced Community Practice I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 482 Advanced Community Practice III** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 481 PHCY, Advanced Community Practice II. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 483 Advanced Institutional Pharmacy I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) required rotation conducted in institutional pharmacies, most often hospitals, and which promote the development of practice skills in comprehensive pharmaceutical care. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 484 Advanced Institutional Pharmacy II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of PHCY 483, Advanced Institutional Pharmacy I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 485 Indian Health Service** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation conducted in a U.S. Public Health Service facility, most often Native American Service programs in Alaska, North Carolina, Arizona, and New Mexico. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 486 Public Health** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is conducted in a U.S. Public Health Service facility. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 487 Community Pharmacy Management I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation with a pharmacy corporation engaged in the provision of community pharmacy care. Students will gain an understanding of the skills required to manage a community pharmacy. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 488 Community Pharmacy Management II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation that is a continuation of 487 PHCY, Community Pharmacy Management I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 489 Advanced Institutional Management I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation conducted in institutional pharmacies, most often hospitals, and which focuses upon the development of management skills appropriate for institutional pharmacy practice. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 490 Advanced Institutional Management II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 489 PHCY, Advanced Institutional Management I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 491 Pharmaceutical Marketing** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) rotation directed by pharmacists employed by major pharmaceutical companies. A major objective of this experience is to provide the student with an appreciation of the influence of sales and marketing upon overall pharmaceutical care. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).

- PHCY 492 Pharmacy Association Management I** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation based at the headquarters of the Tennessee Pharmacists Association (TPA) in Nashville. Student will participate in the day-to-day responsibilities of TPA staff and officers, including meeting planning, monthly journal publication, interfacing with Tennessee State Legislature and Tennessee Medicaid Office. Some interaction with the Tennessee Board of Pharmacy is also possible. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 493 Pharmacy Association Management II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation that is a continuation of 492 PHCY, Pharmacy Association Management I. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHCY 494 Academic Administration** *Credit: 4 (0-160)* This one-month advanced pharmacy practice experience (APPE) elective rotation is a unique professional experience that will allow a student the opportunity to learn about a variety of roles and responsibilities of a pharmacist in academia. This rotation is set within the University of Tennessee College of Pharmacy. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 495 Medication Safety** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation focusing on medication safety in which students will be involved in designing and developing safe medication use systems, as well as gain an understanding of national patient safety initiatives. Activities will include documenting and evaluating medication errors and developing safeguards for prevention of future errors. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 498 Veterinary Pharmacy** *Credit: 4 (0-160)* This one-month advanced pharmacy practice experience (APPE) elective rotation allows a student the opportunity to learn about pharmacology and therapeutics in a diverse animal population. The student will engage in the care of both small and large animals and will experience a variety of roles and responsibilities of a pharmacist in academia. This specific month's rotation is set within a Veterinary Hospital in Cleveland, Tennessee. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHCY 499 International Studies** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation conducted in pharmacy practice settings in Australia, New Zealand, Japan, England, Sweden, Gambia, Denmark, or Spain. A major objective of this experience is to provide the student with an appreciation of cultural and political influences upon the practice of pharmacy. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).

Department of Pharmaceutical Sciences

- PHSC 112 Medicinal Chemistry I** *Credit: 4 (3-2)* A required course devoted to the chemical basis for the field of therapeutics. Synthetic entities and natural products, which are chemotherapeutic agents, are studied. The course familiarizes the student with the chemistry of organic medicinal agents necessary for effective pharmacy practice. *Mode of delivery:* Didactic and recitation. *Offered:* Fall. *Instructor of Record:* Isaac Donkor (Fall).
- PHSC 122 Medicinal Chemistry II** *Credit: 4 (3-2)* A required course that is a continuation of PHSC 112, Medicinal Chemistry I. *Mode of delivery:* Didactic and recitation. *Offered:* Spring. *Instructor of Record:* Isaac Donkor (Spring).
- PHSC 123 Pharmaceuticals** *Credit: 3 (3-0)* A required course intended to be a continuation of PHSC 125, Pharmaceutical Principles. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Tao Lowe (Spring).

- PHSC 125 *Pharmaceutical Principles* Credit: 2 (2-0)** This required course focuses on understanding the physicochemical principles of medications and their applications to the design and development of different pharmaceutical dosage forms. The basic principles that will be covered in this course include drug development and regulatory process, physicochemical and biopharmaceutical considerations, solutions and buffers, chemical kinetics and stability, rheology, interfacial phenomena, disperse system basics, biomaterials, drug delivery. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Hassan Almoazen (Fall).
- PHSC 126 *Sterile Dosage Forms* Credit: 2 (2-0)** A required course designed to familiarize the student with the fundamental principles pertaining to and the techniques employed in the formulation of pharmaceutical agents that are administered parenterally. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Laura Thoma (Fall).
- PHSC 127 *Pharmacy Compounding* Credit: 2 (1-4)** This required course introduces student pharmacists to concepts, techniques, and equipment used in compounding and dispensing of non-sterile preparations. Students receive 14 one hour pre-laboratory lectures followed by 13 weeks of four hours of compounding in the Pharmacy Technology Laboratory. Extemporaneous compounds are discussed and prepared in the course include liquid, semi-solid and solid dosage forms. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Robert Nolly (Spring).
- PHSC 212 *Pharmacokinetics and Dose Optimization* Credit: 4 (3-2)** An introduction to concepts and techniques in quantitative processes associated with the absorption, distribution, metabolism and elimination of drugs. Kinetics of these processes will be rigorously developed, based on appropriate model systems. The didactic material and assigned problems will emphasize current pharmacokinetic literature and will familiarize the students with the latest advances in this rapidly expanding area. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Bernd Meibohm (Fall).
- PHSC 215 *Focus on Pharmacy Compounding* Credit: 1 (0-4)** This one week elective course will teach students to prepare dosage forms they have not previously made such as lollipops, animal treats, sticks, ophthalmics, injections, etc. Emphasis is placed on creating unique formulations that satisfy unique patient needs. Equipment used by compounding pharmacists to formulate preparations that satisfy these needs are discussed. *Mode of delivery:* Didactic and lab. *Pre-Requisites:* PHSC 127 *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Robert Nolly (Fall).
- PHSC 222 *Pharmacogenomics* Credit: 2 (2-0)** The required course is designed to educate students on the importance and application of patient-specific genetic information to individualization of pharmacotherapy. The course begins with a review of essential principles of genetics with an emphasis on genetic variation. The course goes on to develop the concept that individual variability in pharmacokinetic and pharmacodynamic response is related in many instances to genetic variation. The impact of genetic variation in key drug metabolizing enzymes, drug transporters, and receptor drug targets is explored in general as well as in a disease-specific context. Finally, students learn about the ethical and legal implications stemming from the availability of genetic information. *Mode of delivery:* Didactic. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Spring. *Instructor of Record:* Sarka Beranova (Spring).

- PHSC 223 Medication Therapy Management** *Credit: 3 (2-2)* The required course explores the area of medication therapy management services and medication use by patients and health professionals from a social systems perspective with emphasizes information and behavior. This course is not designed to make students experts in Medication Therapy Management, nor totally prepare them to start up their own MTM practice after graduation. It is designed, however, to give students a good foundation on the practice and theory of Medication Therapy Management, a better understanding of various MTM practice settings, and provide students with practical MTM activities (during Recitation) to make them more comfortable with the MTM process. (will move to the fall term of the third professional year in 2015). *Mode of delivery:* Didactic and lab, team-based learning, skills-based. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* (not currently offered).
- PHSC 240 Introductory Research in Pharmaceutics I** *Credit: 2-3* An elective course designed to introduce the student to research techniques in the pharmaceutical sciences. Maximum 3 credit hours; the course is not repeated; however, a student interested on continuing work on a specific project may enroll for PHSC 241 and 242. *Mode of delivery:* Project based. May not be repeated *Offered:* Fall, Spring, Summer. *Instructor of Record:* Duane Miller (*Fall*); Duane Miller (*Spring*).
- PHSC 241 Introductory Research in Pharmaceutics II** *Credit: 1-3* A continuation of 240 PHSC, Introductory Research in Pharmaceutics I. Variable Credit 1-3 (determined by the Faculty project director with approval of the departmental chair); maximum 3 credit hours. The course is not repeated; however, a student interested on continuing work on a specific project may enroll for PHSC 242. *Mode of delivery:* Project based. May not be repeated *Offered:* Fall, Spring.
- PHSC 242 Introductory Research in Pharmaceutics III** *Credit: 1-3* A continuation of 241 PHSC, Introductory Research in Pharmaceutics II. Variable Credit 1-3 (determined by the Faculty project director with approval of the departmental chair); maximum 3 credit hours. *Mode of delivery:* Project based. May not be repeated *Offered:* Fall, Spring.
- PHSC 257 Introduction to Nuclear Pharmacy** *Credit: 4 (3-2)* The first of a three-course sequence (PHSC 257, PHSC 258, and PHSC 313) to provide the 200-hour of didactic/laboratory material required by the NRC to become a nuclear pharmacist. Gives an overview of the use of radiopharmaceuticals in nuclear medicine, review of basic concepts of physics, atomic and nuclear structure, nuclear interactions, etc. *Mode of delivery:* Didactic, skills-based, project based. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Summer. *Instructor of Record:* Vivian Loveless (*Fall*).
- PHSC 258 Basic Nuclear Pharmacy** *Credit: 3 (2-3)* The second course in a three-course sequence (PHSC 257, PHSC 258, and PHSC 259). This course involves radiation safety, characteristics and use of the geiger-mueller counter, gamma ray scintillation spectrometry-single channel analyzer, background reduction, etc. *Mode of delivery:* Didactic, skills-based, project based. *Pre-Requisites:* None *Co-Requisites:* None *Offered:* Summer. *Instructor of Record:* Vivian Loveless (*Fall*).
- PHSC 260 Special Problems in Pharmaceutical Sciences I** *Credit: 2-3* The purpose of this elective course is to allow the individual student to design and implement a specific project in pharmaceutical sciences. After completion of the project, a written report is required. The maximum credit is 3 hours; however, a student interested on continuing work on a specific project may enroll in PHSC 261 and 262. *Mode of delivery:* Project based. May not be repeated *Offered:* Fall, Spring. *Instructor of Record:* Duane Miller (*Fall*); Duane Miller (*Spring*).
- PHSC 261 Special Problems in Pharmaceutical Sciences II** *Credit: 2-3* A continuation of PHSC 260, Special Problems in Pharmaceutical Sciences I. The maximum credit is 3 hours. The course may not be repeated; however, a student interested on continuing work on a specific project may enroll in PHSC 262. *Mode of delivery:* Project based. May not be repeated *Offered:* Fall, Spring, Summer.

- PHSC 262 Special Problems in Pharmaceutical Sciences III** *Credit: 2-3* A continuation of PHSC 261, Special Problems in Pharmaceutical Sciences II. The maximum credit is 3 hours. *Mode of delivery:* Project based. May not be repeated *Offered:* Fall, Spring, Summer.
- PHSC 265 Pharmacy Compounding Special Project I** *Credit: 2* The purpose of this elective course is to allow the individual student to further develop their knowledge and skills in the area of pharmacy compounding by serving as a teaching assistant in the term long required course. *Mode of delivery:* Project based. *Offered:* Fall, Spring. *Instructor of Record:* Robert Nolly (Spring).
- PHSC 311 Compounding Pharmacy Elective** *Credit: 2 (1-2)* The course will teach students to prepare dosage forms they have not previously made such as lollipops, animal treats, sticks, ophthalmics, injections, etc. Emphasis is placed on creating unique formulations that satisfy unique patient needs. Equipment used by compounding pharmacists to formulate preparations that satisfy these needs are discussed. *Mode of delivery:* Didactic, skills-based, project based. *Pre-Requisites:* PHSC 127 *Co-Requisites:* None *Offered:* Fall. *Instructor of Record:* Charlie May (Fall).
- PHSC 313 Advanced Nuclear Pharmacy** *Credit: 2 (1-3)* The third course in a three-course sequence (PHSC 257, PHSC 258, and PHSC 259) qualifying the student to become licensed as a certified nuclear pharmacist. This course includes cardiac studies, pharmacologic stress agents, renal studies, hepatobiliary imaging, thyroid studies, etc. *Mode of delivery:* Didactic, skills-based, project based. *Pre-Requisites:* Must score no less than a B- in Introduction to Nuclear Pharmacy (PHSC 257) *Offered:* Spring. *Instructor of Record:* Vivian Loveless (Spring).
- PHSC 336 Pharmacy Compounding Special Project II** *Credit: 1* This course allows the student to further develop knowledge and skills in the area of pharmacy compounding by serving as a teaching assistant during the week long compounding elective. *Mode of delivery:* Project based. May not be repeated *Offered:* Fall, Spring. *Instructor of Record:* Robert Nolly (Fall); Robert Nolly (Spring).
- PHSC 421 Pharmaceutical Sciences Research** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring, Summer. *Instructor of Record:* Rex Brown (Spring).
- PHSC 438 Nuclear Pharmacy III** *Credit: 4 (0-160)* An advanced pharmacy practice experience (APPE) elective rotation. It is designed to further develop a student's knowledge and skills in the field of radiomedications. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring.
- PHSC 439 Nuclear Pharmacy II** *Credit: 4 (0-160)* An advanced pharmacy practice experience (APPE) elective rotation that is a continuation of PHSC 440. It is designed to further develop a student's knowledge and skills in the field of radiomedications. *Mode of delivery:* Experiential learning, interprofessional education. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHSC 440 Nuclear Pharmacy I** *Credit: 4 (0-160)* An advanced pharmacy practice experience (APPE) elective rotation designed to introduce the student to clinical application concepts associated with the field of radiomedications. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Fall); Rex Brown (Spring).
- PHSC 441 Pharmacokinetics** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation providing supervised professional experience in research applications of pharmacokinetic principles. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).
- PHSC 442 Industrial Pharmaceutics** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation designed to give the student experience in the operation of a pilot plant scale production facility for nonsterile dosage forms of drugs. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (Spring).

- PHSC 445 Biopharmaceutical Analysis** *Credit: 2 (1-4)* An elective course designed to introduce the concepts and principles of instrumental analysis especially as they apply to biopharmaceutics. It will involve didactic and laboratory instruction. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (*Spring*).
- PHSC 450 Pharmacoeconomics I** *Credit: 4 (0-160)* The Pharmacoeconomics advanced pharmacy practice experience (APPE) elective rotation will provide the student pharmacist with a basic understanding of the clinical, economic, and humanistic outcomes of healthcare interventions, focusing on pharmacoeconomics and healthcare quality assessments. The student will also be exposed to a variety of competencies used in health outcomes research and will be directly involved with conducting quality-focused, outcomes-based research—from proposal development to analysis to manuscript preparation. *Mode of delivery:* Experiential learning, research. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (*Spring*).
- PHSC 451 Pharmacoeconomics II** *Credit: 4 (0-160)* A one-month advanced pharmacy practice experience (APPE) elective rotation designed to give the student experience in the description and analysis of the costs of drug therapy to health care systems and society. *Mode of delivery:* Experiential learning. *Offered:* Fall, Spring. *Instructor of Record:* Rex Brown (*Spring*).

FACULTY LIST

Almoazen, Hassan, Assistant Professor, 2007; Doctor of Philosophy in Pharmaceutical Sciences, Long Island University (2002)

Bahouth, Suleiman W., Professor, 1988; Doctor of Philosophy in Pharmacology, New York University (1985)

Beranova, Sarka, Associate Professor, 1996; Doctor of Philosophy in Chemistry, University of Akron (1995)

Boucher, Bradley A., Professor, 1984; Doctor of Pharmacy, University of Minnesota (1983)

Brown, Rex O., Professor and Executive Vice Chair, 1983; Doctor of Pharmacy, University of Tennessee Health Science Center (1980)

Broyles, Joyce E., Associate Professor, 1985; Doctor of Pharmacy, University of Tennessee Health Science Center (1988); Master of Science in Microbiology, University of Tennessee Knoxville (1981)

Carter, Jason A., Associate Professor, 2004; Doctor of Pharmacy, University of Tennessee Health Science Center (1995)

Chhim, Rebecca F., Assistant Professor, 2011; Doctor of Pharmacy, University of Tennessee Health Science Center (2009)

Christensen, Michael Lloyd, Professor, 1990; Doctor of Pharmacy, University of Tennessee Health Science Center (1982)

Chyka, Peter Anton, Professor and Executive Associate Dean, 1977; Doctor of Pharmacy, University of Minnesota (1977)

Donkor, Isaac O., Professor and Associate Dean, 1993; Doctor of Philosophy in Medicinal Chemistry, Duquesne University (1988)

Duhart Jr, Benjamin T., Associate Professor, 1997; Doctor of Pharmacy, University of Tennessee Health Science Center (2001)

Finch, Christopher K., Assistant Professor, 2000; Doctor of Pharmacy, University of Tennessee Health Science Center (2000)

Finks, Shannon L., Associate Professor, 2000; Doctor of Pharmacy, University of Tennessee Health Science Center (1998)

Foster, Stephan L., Professor, 1998; Doctor of Pharmacy, University of Tennessee Health Science Center (1977)

Franks, Andrea R., Associate Professor, 1995; Doctor of Pharmacy, University of Tennessee Health Science Center (1992)

George, Christa M., Associate Professor, 1996; Doctor of Pharmacy, University of Tennessee Health Science Center (1995)

Guarascio, Anthony Joseph, Assistant Professor, 2011; Doctor of Pharmacy, West Virginia University (2009)

Helms, Richard A., Professor and Chair, 1979; Doctor of Pharmacy, Duquesne University (1979)

Herrington, Catherine Crill, Associate Professor, 1996; Doctor of Pharmacy, University of Tennessee Health Science Center (1996)

Howard-Thompson, Amanda Marie, Associate Professor, 2000; Doctor of Pharmacy, University of Tennessee Health Science Center (2005)

Knous, Nancy, Assistant Professor, 2006; Bachelor of Science in Communications, University of Tennessee Knoxville (1983)

Laizure, Joanna Hudson, Associate Professor, 1998; Doctor of Pharmacy, Virginia Commonwealth University - Medical College of Virginia (1996)

Laizure, Steven Casey, Professor, 1987; Doctor of Pharmacy, University of North Carolina at Chapel Hill (1983)

Lee, Marilyn D., Professor, 1984; Doctor of Pharmacy, University of Tennessee Health Science Center (1980)

Loveless, Vivian S., Associate Professor, 1974; Doctor of Pharmacy, University of Tennessee Health Science Center (1976)

Lowe, Tao Lu, Associate Professor, 2011; Doctor of Philosophy in Polymer Chemistry, University of Helsinki, Finland (1998)

May, Charles, Assistant Professor, 1993; Bachelor of Science, University of Tennessee Health Science Center, (1955); Master of Science, University of Tennessee Health Science Center, (1956)

McFarland, Michael Shawn, Associate Professor, 2000; Doctor of Pharmacy, University of Tennessee Health Science Center (2000)

Meibohm, Bernd, Professor and Associate Dean, 1999; Doctor of Natural Sciences, Technical University Carolo-Wilhelmina (1994)

Miller, Duane D., Professor, 1992; Doctor of Philosophy in Pharmacy, University of Washington (1969)

Nolly, Robert J., Professor, 1979; Master of Science in Hospital Pharmacy Administration, Ohio State University (1979)

Perry, Alicia B., Assistant Professor, 2006; Doctor of Pharmacy, University of North Carolina at Chapel Hill (1999)

Phelps, Stephanie J., Professor and Associate Dean, 1982; Doctor of Pharmacy, University of Tennessee Health Science Center (1982)

Potts, Amy, Assistant Professor, 2006; Doctor of Pharmacy, Duquesne University, (2000)

Rashed, Sahar, Associate Professor, 1996; Doctor of Pharmacy, University of Tennessee Health Science Center (2000); Doctor of Philosophy in Biochemistry, University of Tennessee Health Science Center (1990)

Robbins, Amy, Assistant Professor, 2004; Doctor of Pharmacy, University of Tennessee Health Science Center Pharmacy (2000)

Rogers, Kelly C., Professor, 2001; Doctor of Pharmacy, University of Tennessee Health Science Center (1994)

Rogers, Phillip David, Professor, 2001; Doctor of Philosophy in Microbiology, University of Mississippi Medical Center (2001); Doctor of Pharmacy, University of Tennessee Health Science Center (1995)

Rowe, Anthony Shaun, Assistant Professor, 2003; Doctor of Pharmacy, Campbell University (2003)

Schwab, Carol A., Professor and Director, 2007; Juris Doctor, University of Missouri – Columbia (1978); Master of Laws in Taxation, Washington University in St. Louis (1985)

Self, Timothy H., Professor, 1972; Doctor of Pharmacy, University of Tennessee Health Science Center (1972)

Shelton, Chasity Michelle, Assistant Professor, 2005; Doctor of Pharmacy, University of Tennessee Health Science Center (2005)

Solomon, David K., Professor, 1990; Doctor of Pharmacy, University of Tennessee Health Science Center (1970)

Stelts, Sundae Dawne, Assistant Professor, 2009; Doctor of Pharmacy, Medical University of South Carolina (2006)

Suda, Katie Joy, Associate Professor, 2003; Doctor of Pharmacy, Drake University (1999); Master of Science in Epidemiology, University of Tennessee Health Science Center (2010)

Suttle, Dale Parker, Associate Professor, 1993; Doctor of Philosophy in Chemistry, University of Texas at Austin (1975)

Swanson, Joseph Michael, Associate Professor, 1997; Doctor of Pharmacy, University of Tennessee Health Science Center (2002)

Thoma, Laura A., Professor, 1985; Doctor of Pharmacy, University of Tennessee Health Science Center (1991)

Tillman, Emma M., Research Assistant Professor, 2007; Doctor of Pharmacy, Butler University (2007)

Waddell, James Aubrey, Professor, 2005; Doctor of Pharmacy, University of Arkansas for Medical Sciences (1996); Master of Arts in Business Administration, Webster University (1987)

Wood, G. Christopher, Associate Professor, 1996; Doctor of Pharmacy, University of Tennessee Health Science Center (1996)

Yates, Mary, Assistant Professor, 2003; Doctor of Pharmacy, University of Tennessee Health Science Center (1997)