School of Health Professions

The University of Texas Medical Branch

BULLETIN
2018-2020

utmb Health

Provisions of this Bulletin

The provisions of this bulletin do not constitute a contract, express or implied, between any applicant, student, or faculty member and The University of Texas System and The University of Texas Medical Branch at Galveston (UTMB).

UTMB reserves the right to withdraw courses at any time and to change fees and tuition, academic calendars, curricula, degree requirements, graduation procedures, and any other requirement affecting students. Changes will become effective whenever the proper authorities so determine and will apply both to prospective students and to those already enrolled.

UTMB's Catalog consists of five separately published components: UTMB General Information Catalog
School of Nursing (SON) Bulletin School of Medicine (SOM) Bulletin
School of Health Professions (SHP) Bulletin
Graduate School of Biomedical Sciences (GSBS) Bulletin

UTMB's Catalog provides general information regarding degrees and programs offered, admission requirements, orientation and registration, tuition and fees, academic policies, student life, and student support services.

Each bulletin for the four UTMB schools listed above provides the school's calendars, program-specific degree requirements, course offerings, and other school-specific information.

Copies of the most current issues of the catalog and bulletins, including any approved corrections, edits, deletions and additions, are available online at www.utmb.edu/enrollmentservices.

Equal Opportunity/Affirmative Action

UTMB, in accordance with applicable federal and state laws and regulations, does not discriminate on the basis of race, color, national origin, sex, age, religion, disability, or status as a Vietnam-era veteran in any of its policies, practices, and procedures. Also, UTMB does not discriminate on the basis of sexual orientation to the extent allowed by law. This includes, but is not limited to, admissions, employment, financial aid, educational services, access to facilities, and services. UTMB, in accordance with applicable federal and state laws and regulations, is committed to developing and implementing affirmative action strategies with respect to minority individuals, women, Vietnam-era veterans, and persons with disabilities. Requests for additional information or complaints regarding this policy may be directed to the Office of Equal Opportunity and Diversity located on the ground floor of Rebecca Sealy Hospital.

Privacy and Release of Student Academic Data

UTMB is in compliance with the Family Educational Rights and Privacy Act of 1974 (FERPA) (20 U.S.C. Section 1232g) and the Texas Public Information Act (Chapter 552, Texas Government Code), which together protect the privacy of educational records and establish the rights of students to inspect and review their educational records. More information regarding UTMB's compliance with FERPA is contained in UTMB Institutional Handbook of Operating Procedures (IHOP) Policy 7.1.30. Copies of FERPA and UTMB's FERPA policy are also available from the Office of Enrollment Services.

Written requests for inspection of a student's own file may be made to the registrar, Dean of the student's respective school, academic department chair, or other appropriate school official.

The following categories of student information are considered "directory" information, and may be released without consent upon written or verbal request: student's name (including previous names), date of birth, enrollment status (full time, half time, less than half time, undergraduate, graduate, etc.), campus phone and campus address, email address, student classification, previous institution(s) attended, major field of study, dates of attendance, degree(s) conferred and date(s) of degree(s) (including degrees from previous institutions), honors and awards, photographs, participation in officially recognized activities, and postgraduate training site for M.D. and Ph.D. graduates and degree candidates.

Students have the right under FERPA to restrict the disclosure of directory information by submitting a Request to Restrict Release of Information form to the Office of Enrollment Services (Attention: Registrar) beginning on the first day of registration but no later than the term census date (normally the 12th class day). Student requests to restrict the disclosure of their respective directory information will be honored in accordance with FERPA and such information will be treated as confidential and not subject to disclosure except as permitted or required by law. Student requests to withhold directory information must be submitted at the start of each academic year, and will only be effective until the end of the academic year for which the request was submitted or until the student ceases to be enrolled or rescinds their request in writing, whichever occurs first. UTMB may disclose directory information about former students without any notice to or consent from the student.

Students also have the right to file a complaint with the Office of Enrollment Services concerning any alleged failures by UTMB to comply with FERPA. Complaints may also be filed with the Family Compliance Office, US Department of Education, 400 Maryland Av. SW, Washington, DC 20202-5920.

Campus Security Report

In compliance with the Campus Security Act of 1990, UTMB prepares an annual Campus Security Report that is available to the public online at www.utmb.edu/securityreport. Printed copies of the report are available upon request from UTMB's Police Department at (409) 772–1503.

Americans with Disabilities Act

UTMB complies with the Americans with Disabilities Act (ADA) as amended, Section 504 of the Rehabilitation Act of 1973, and state and local requirements regarding students with disabilities. Under these laws, no otherwise qualified and competitive individual with a disability shall be denied access to or participation in services, programs, or activities of UTMB solely on the basis of disability. Copies of the ADA and Section 504 of the Rehabilitation Act of 1973 are available upon request from the Office of Student Services. More information regarding UTMB's compliance with the ADA is also available in IHOP Policy 7.1.1.

UTMB is committed to providing equal opportunities for students with disabilities. Each academic program has Essential Functions that describe specific skills and outcomes that a student must be capable of performing to be successful in the program with or without reasonable accommodations. The Essential

Functions for a respective program are available upon request. If you have a documented disability or would like to obtain information regarding services for students with disabilities, a complete copy of the "Student with Disabilities: Guidelines for Compliance" is available online at www.utmb.edu/studentservices/services/students-with-disabilities. You may also contact the School of Health Professions Office of Academic & Student Affairs, or the Institutional ADA Officer located on the second floor of the Lee Hage Jamail Student Center, room 2.118 or by phone at 409-747-4818. This information will be treated as confidential, and will only be given to those individuals responsible for assuring reasonable accommodations.

Services for students with disabilities is a program within the Office of Student Services in coordination with the Office of Equal Opportunity and Diversity and the Student Affairs offices of the four UTMB schools. By law all students with disabilities are guaranteed a learning environment that provides reasonable accommodation of their disability. The legal protections mentioned above are civil rights provisions aimed at ending discrimination against persons with disabilities. All programs and offices at UTMB are committed to providing a supportive and challenging environment for students with disabilities who choose to attend UTMB. The Office of Student Services is located on the second floor of the Lee Hage Jamail Student Center. The

Office of Equal Opportunity and Diversity is located on the ground floor of Rebecca Sealy Hospital.

Accreditation

UTMB is accredited by the Southern Association of Colleges and Schools and Commission on Colleges (SACSCOC) to award the baccalaureate, master's, doctoral, and professional degrees. Questions regarding UTMB's accreditation may be directed to SACSCOC at:

1866 Southern Lane
Decatur, GA 30033-4097
Telephone (404) 679-4500

HIPAA

UTMB protects the privacy of its patients' health information in accordance with state and federal law, including the Health Insurance Portability and Accountability Act of 1996 (HIPAA). HIPAA prescribes stringent standards defining appropriate and inappropriate disclosures of individually identifiable health information and governs how patient privacy rights are to be protected. All UTMB students, along with faculty and staff, are provided and required to complete training to ensure understanding of and compliance with HIPAA privacy rules. More information regarding UTMB's policies and procedures are available in IHOP, and from the Office of Institutional Compliance.

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School of Health Professions

PLEASE VISIT OUR WEBSITE AT:
http://shp.utmb.edu/

This publication is available on the internet at:
http://shp.utmb.edu/SHP_Bulletins.pdf

UNIVERSITY OF TEXAS MEDICAL BRANCH AT GALVESTON
301 University Boulevard
Galveston, Texas 77555-1136

Telephone: 409-772-3030

BULLETIN
2018-2020
(Last published – 2016-2017)

Introduction

ABOUT THE SCHOOL

As the first academic health center in Texas and one of the oldest in the nation, the University of Texas Medical Branch at Galveston (UTMB Health) has helped define health care for generations. Throughout its distinguished history of excellence, UTMB Health has provided Texas a diverse and highly skilled health professions work force, improved the understanding and treatment of illness and injury, and served as a leading source of advanced medical care for patients from across the state.

The UTMB School of Health Professions (SHP) carries on this tradition. Opening its doors in 1968 as the School of Allied Health Sciences, it was the first school of its kind in the Southwest U.S. Now known as the School of Health Professions, it has awarded more than 11,000 degrees and certificates to graduates in such vital areas as clinical laboratory sciences, physical therapy, health information management, occupational therapy, physician assistant studies, radiologic health sciences, health care administration, and respiratory care. Today, the SHP offers baccalaureate degrees in Clinical Laboratory Sciences and Respiratory Care, master's degrees in Health Professions, and Occupational Therapy, and the professional doctorate in Clinical Laboratory Sciences, Occupational Therapy and Physical Therapy. In addition to designing and implementing innovative ways to deliver instruction to students at remote locations, the SHP continues to explore opportunities to expand its program offerings and interprofessional learning.

The UTMB School of Health Professions faculty are renowned experts in their fields who offer a challenging, hands-on educational experience. The school's teaching environment supports its educational mission, and the UTMB Health System provides opportunties for diverse learning experiences. The school's teaching environment supports its educational mission. With hospitals and emergency departments on three campuses in Galveston, Angleton Danbury and League City, as well as a comprehensive network of outpatient clinics throughout the region and a variety of research laboratories, UTMB Health offers a diverse range of real-world learning experiences for health professions students. The four-story School of Health Professions/School of Nursing building houses state-of-the-art classrooms, laboratories, multipurpose auditoria, and faculty and administrative offices. Students may also take advantage of the Moody Medical Library, one of the largest and most modern medical libraries in the Southwest. The Truman G. Blocker, Jr., History of Medicine Collections, for example, feature thousands of rare medical books, prints, historic microscopes and medical instruments, as well as other medical memorabilia.

The school continues to strive for excellence in many ways, by setting ambitious goals, strengthening the quality of the faculty, expanding student recruitment, connecting with alumni, and broadening course offerings and clinical affiliations to provide students with the greatest variety of learning opportunities. Today the school proudly continues its 50-year tradition of preparing competent and caring professionals who epitomize respect, integrity and compassion to all. For a detailed description of UTMB Health and the School of Health Professions, please visit the UTMB Health website at http://www.utmb.edu, the General Information Catalog at and the School of Health Professions bulletin at http://www.utmb.edu/enrollmentservices/catalog.asp.

School of Health Professions Administration

Vicki Freeman, PhD, MASCP, MLS (ASCP)^{cm} SC^{cm}, FAACC
Interim Dean, School of Health Professions
Associate Dean for Faculty Development

Christine P. Baker, PT, EdD, FAPTA
Associate Dean for Academic and Student Affairs/SHP

Blake Rasmussen, PhD
Interim Associate Dean for Research

UTMB Mission Statement

The mission of The University of Texas Medical Branch at Galveston is to improve health for the people of Texas and around the world by offering innovative education and training, pursuing cutting edge research and providing the highest quality patient care.

UTMB Vision

We work together to work wonders as we define the future of health care and strive to be the best in all our endeavors.

UTMB Values

Our values define our culture and guide our every interaction.

- We demonstrate ***compassion***.
- We always act with ***integrity***.
- We show ***respect*** to all.
- We embrace ***diversity***.
- We promote ***lifelong learning***.

School of Health Professions Mission Statement

The mission of the School of Health Professions is to provide and promote quality education, research, and service in an environment that fosters collaboration and mutual respect.

The School of Health Professions:

- provides multi-level educational programs for a diverse group of students, colleagues, and members of the community,
- facilitates student and faculty involvement in scientific investigation and scholarly activities that advance health care, and
- promotes service through active participation in professional and community activities.

School of Health Professions Vision Statement

We envision a school that provides quality education in the health professions and encourages and rewards innovation.

In this environment:

- we identify educational outcomes clearly,
- we embody principles of adult learning, which are reflected in the best educational practices,
- we promise team-oriented health care through true interdisciplinary learning,
- we use current technology to promote learning,
- we employ non-traditional methods for acquiring and demonstrating mastery to facilitate degree completion,
- we arrange for students to gain clinical experience in community settings, and
- we prepare clinically competent graduates to embrace ethical practices and possess excellent interpersonal skills.

We further envision an education environment in which:

- basic education instills awareness of professional identity and a lifelong dedication to learning,
- faculty are attuned to developments and needs in the health care field, and
- research and demonstration projects stimulate thought and enrich instruction, define practice, and improve health care delivery.

This learning environment:

- values and rewards continuous improvement in instructional strategies,
- promotes career and personal development, and
- encourages healthful living through its organizational practices.

School of Health Professions Objectives

SHP faculty members continuously work to assess and systematically improve the effectiveness of the school's professional curricula to ensure the achievement of the mission of the school and UTMB Health. The School of Health Professions:

- educates and trains personnel for allied health careers through undergraduate and graduate programs, including both didactic and clinical experiences,
- provides health professions practitioners for the expanding comprehensive health care systems of all regions of the state of Texas,
- collaboratively maintains community health professions service programs that serve as the basis for team education and for the promotion of comprehensive health care,
- provides consultative services to hospitals, rehabilitation centers, community agencies, and other appropriate health-related institutions within the state of Texas,
- develops and maintains programs of investigative studies and research in health-related disciplines,
- develops and maintains continuing education programs for health professions practitioners in the state of Texas, and
- involves alumni of the school in a commitment to the continuing enhancement of the school and its programs.

Degrees and Certificates

Department of Clinical Laboratory Sciences

- Bachelor of Science in Clinical Laboratory Sciences
- Master of Science with a major in Clinical Laboratory Sciences
- Master of Science with a major in Transfusion Medicine
- Doctor of Clinical Laboratory Sciences
- Categorical Certification in Chemistry
- Categorical Certification in Hematology
- Categorical Certification in Immunohematology
- Categorical Certification in Microbiology
- Dual Categorical Certification in Chemistry and Hematology

Department of Nutrition and Metabolism

- Master of Science with a major in Nutrition and Metabolism

Bachelor of Science in Respiratory Care

Master of Science with a major in Health Professions

Master of Occupational Therapy

Doctorate of Occupational Therapy

Doctorate of Physical Therapy

Accreditation

Accreditation Schedule, School of Health Professions				
Discipline/Department	**Accrediting Agency**	**Last Visit Date**	**Current Status**	**Next Scheduled**
CLINICAL LABORATORY SCIENCES	National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)	May 2017	10 years	2027
NUTRITION AND METABOLISM	Accreditation Council for Education in Nutrition and Dietetics	May 2016	7 years	2024
OCCUPATIONAL THERAPY	Accreditation Council for Occupational Therapy Education	June 2015	7 years	June 2022
PHYSICAL THERAPY	Commission on Accreditation for Physical Therapy Education (CAPTE)	March 2015	10 years	2025
RESPIRATORY CARE	The Commission on Accreditation for Respiratory Care (CoARC)	June 2016	10 years	2026

Last Updated 8-31-2018

Accreditation

The University of Texas Medical Branch at Galveston is accredited by the Southern Association of Colleges and Schools and Commission on Colleges (SACSCOC) to award baccalaureate, master's, doctoral, and professional degrees. Questions regarding UTMB's accreditation may be directed to SACSCOC at:

1866 Southern Lane
Decatur, GA 30033-4097
Telephone (404) 679-4500
Fax (404) 679-4558

Policy regarding compliance with accreditation policies and procedures

The School of Health Professions is committed to excellence in health professions education through support of programmatic accreditation. This support includes but is not limited to timely submission of required fees and documentation requested from the accrediting agency. This policy was approved by the Chairs' Council on March 17, 2004.

SHP Application Deadlines				
Program	2016	2017	2018	2019
CLINICAL LABORATORY SCIENCES	For CLS: see link For CLS–MPA: March 1, 2016	For CLS: see link For CLS–MPA: March 1, 2017	For CLS: see link For CLS–MPA: March 1, 2018	For CLS: see link
For more information on the application process, please visit http://shp.utmb.edu/cls/application.asp				
NUTRITION AND METABOLISM	Feb. 2016	Feb. 2017	Feb. 2018	Feb. 2019
For more information on the application process, please visit http://shp.utmb.edu/nutr/admissionrequirements.asp				
OCCUPATIONAL THERAPY	BS to OTD May 1, 2017 MS to OTD Sept. 1, 2016 MOT Oct. 15, 2015	BS to OTD May 1, 2017 MS to OTD Sept. 1, 2017 MOT Oct. 15, 2016	BS to OTD May 1, 2018 MS to OTD Sept. 1, 2018 MOT Oct. 15, 2017	BS to OTD May 1, 2019 MS to OTD Sept. 1, 2019 MOT Oct. 15, 2018
MOT applicants must complete the OTCAS application including all official transcripts and supporting documents in the Central Application Service for Occupational Therapy (OTCAS) by October 15th (11:59 p.m. EST). Application status in OTCAS must be marked complete. For more information on the application process, please visit http://shp.utmb.edu/OccupationalTherapy/ProspectiveStudents/HowToApply.asp				
PHYSICAL THERAPY	Nov. 1, 2017	Nov.1, 2018	Nov. 1, 2019	Nov. 1, 2020
Physical Therapy applicants must complete the PTCAS application including all official transcripts and supporting documents in the Physical Therapist Central Application System (PTCAS) by the first business day in November (11:59 p.m. EST). Application status in PTCAS must be marked verified. For more information on the application process, please visit https://portal.ptcas.org/ and https://shp.utmb.edu/PhysicalTherapy/traditionaldpt.asp.				
PHYSICAL THERAPY – BRIDGE PTA TO DPT	Nov. 1, 2017	Nov.1, 2018	Nov. 1, 2019	Nov. 1, 2020
Physical Therapy applicants must complete the PTCAS application including all official transcripts and supporting documents in the Physical Therapist Central Application System (PTCAS) by the first business day in November (11:59 p.m. EST). Application status in PTCAS must be marked verified. For more information on the application process, please visit https://portal.ptcas.org/ and https://shp.utmb.edu/PhysicalTherapy/bridgeptadpt.asp.				
RESPIRATORY CARE	July 1, 2016	July 1, 2017	July 1, 2018	July 1, 2019
For more information on the application process, please visit http://shp.utmb.edu/RespiratoryCare/ProspectiveStudents/Application.asp				

SHP Application Fee

SHP Application Fee is $50.00

Note:

- Occupational therapy applicants apply through Central Application Service for Occupational Therapy (OTCAS) and pay the UTMB supplemental fee of $40.00.
- Physical Therapy applicants apply through Central Application Service for Physical Therapy (PTCAS) and pay the UTMB supplemental fee of $40.00. Bridge DPT applicants apply through UTMB application process and pay the UTMB supplemental fee of $40.
- Nutrition and Metabolism applicants are initially processed through the Dietetic Internship Centralized Application Services (DICAS) and once matched, apply through the UTMB application process.
- CastleBranch – Students beginning a new program track must register with CastleBranch to create an account. Once created, students must purchase a background check, drug screen, and upload proof of required immunizations. Costs include:
  - $35 – One-time fee to create the account;
  - $40 – Background check fee;
  - $35 – Drug screen fee.

Non-degree Applicants

Under certain conditions an applicant may be accepted for enrollment in one or more courses for credit. The non-degree applicant must have completed a minimum of 45 semester credit hours, excluding military science and physical education.

Non-degree undergraduate applicants must maintain a 2.0 GPA in all course work undertaken in the school in order to be eligible to enroll in any subsequent term.

Non-degree graduate applicants must maintain a 3.0 GPA in all course work undertaken in the school in order to be eligible to enroll in any subsequent term.

The University of Texas Medical Branch at Galveston
School of Health Professions
Academic Calendar

NOTE:

Academic Calendars are subject to change, and are continuously updated.
The latest approved edition can be found at the SHP web site: https://shp.utmb.edu/AcademicCalendar/default.asp

Holidays are subject to approval by The University of Texas System Board of Regents.
Holiday schedules can be found by visiting the iutmb home page, clicking the Resources tab (https://www.utmb.edu/iutmb#links), then click on Holiday Schedules FY18 and FY 19 under Employees heading. Off campus students may have to be logged into the system in order to access this information.

Commencement

The School of Health Professions conducts commencement exercises in August. All graduating students are expected to attend the commencement appropriate to their program.

Students must complete all degree requirements in order to participate in commencement. Students who complete their degree programs at a time other than at the close of the period preceding commencement can chose to attend and participate as walkers only in the current commencement exercises or attend and participate in the next commencement exercises.

Additional information concerning commencement can be found on our website at: https://shp.utmb.edu/ASA/commencement/default.asp.

Department of Clinical Laboratory Sciences

Interim-Chair & Associate Professor, Instruction
Jose H. Salazar, PhD, MLS(ASCP)CM

Professor
Vicki Freeman, PhD, MASCP, MLS (ASCP)^{cm} SC^{cm}, FAACC

Associate Professor, Instruction
Jian Zhang, MD, MS, M(ASCP)

Assistant Professor, Instruction
Miriam Corti, PhD, MLS(ASCP)
Janet Enderle, PhD, MLS(ASCP)
Muneeza Esani, PhD., MT(ASCP)
Julie K. Soder, MS., MLS(ASCP)CM
Marla Stevenson, MEd, MT(ASCP)
Leonce H. Thierry Jr., MS, MLS(ASCP)CM, CHES
LeeAnn Walker, MEd, MT(ASCP) SBB

Adjunct Faculty
Barbara Bryant, MD, MT (ASCP)SBB – Adjunct Professor
Jianli Dong, MD, PhD – Adjunct Associate Professor
Aristedes Koutrouvelis, MD – Adjunct Professor
Michael Laposata, MD, PhD – Adjunct Professor
Jayanna Slayten, MS, MT(ASCP)SBB – Adjunct Assistant Professor
Natalie Williams-Bouyer, PhD – Adjunct Associate Professor

Professor Emeritus
E. Camellia St. John, MEd,MT(ASCP)CMSBB

THE PROFESSION

Clinical laboratory scientists (medical technologists) serve as behind-the-scenes detectives in the health care industry, making a valuable contribution to patient care by performing clinical laboratory procedures that provide aid in the diagnosis, prevention, and treatment of diseases. They analyze samples of blood, tissue, or body fluids using the latest in biomedical instruments to generate accurate, reliable test results. Pathologists and other physicians rely upon the knowledge, skills, and integrity of the clinical laboratory scientist for the accuracy and validity of test results.

The field of clinical laboratory sciences is a dynamic, exciting profession that continually changes as new scientific and medical knowledge is discovered. Graduates with a thorough background in clinical laboratory sciences theory and practice, as provided by this degree program, continue to maintain and enhance their competency through continuing education, and confirm their competency through professional certification programs and annual updates based on continuing education.

Patience and thoroughness are necessary to perform tests with precision. When necessary, the clinical laboratory scientist must be able to work quickly without sacrificing precision. The clinical laboratory scientist must possess manual dexterity, the ability to concentrate, vision correctable to 20/20, and good judgment. Successful clinical laboratory scientists generally have a strong scientific curiosity and an interest in technical instrumentation. Finally, they must possess good communication and interpersonal skills that are needed when interacting with patients and other members of the health care team.

In the laboratory, the clinical laboratory scientist may work as a generalist or a specialist and will have the opportunity to advance in positions of responsibility, from general technologist to supervisor, from chief technologist to administrative technologist. In professional settings, the clinical laboratory scientist applies technical expertise in various areas such as immunology, cell marker technology, transplantation, toxicology, cancer research, molecular biology, and cytogenetics.

CAREER OPPORTUNITIES

Future employment opportunities look bright for certified clinical laboratory scientists; there is a great need for their services throughout the country. There is currently a significant shortage of qualified medical laboratory personnel in medicine, biotechnology, and research. It is projected that by the year 2024, 16 percent more clinical laboratory professionals will be needed to meet the demands of the growing health care system.

The profession of clinical laboratory sciences offers a diversified choice of career opportunities.

The clinical laboratory scientist finds challenging opportunities in hospital and independent laboratories, physicians' offices, clinics, research, industry, and educational institutions. Of the many clinical laboratory scientists employed in hospital laboratories, those in small-to-medium-sized hospitals and clinics usually function as generalists with responsibilities in more than one area of the laboratory. Those working in larger hospitals or medical centers usually limit their practice to a single area of the clinical laboratory and tend to specialize in that area, either because of experience or advanced education. In addition, the clinical laboratory scientist may be employed in forensic laboratories, public health agencies, and extended care facilities. Manufacturers of laboratory equipment and supplies offer employment in sales, service, and research. Medical centers offer opportunities in clinical and basic science research and development in the clinical area.

A growing range of opportunities is available for the clinical laboratory scientist who is interested in and capable of assuming greater responsibility: graduate programs in the laboratory disciplines, biotechnology, administration, education, molecular biology and bioelectronics; positions as supervisor, chief technologist, and administrative technologist in the hospital laboratory; clinical laboratory technology teaching positions in community colleges and universities; continuing education programs; computer utilization; quality assurance; and consultation. As the field of clinical laboratory sciences advances and changes, the role of the clinical laboratory scientist will expand and change.

EDUCATIONAL PHILOSOPHY OF THE PROGRAM

Our Clinical Laboratory Sciences Program subscribes to the common philosophy of health care that professionals should tailor their efforts to meet the needs of the individual. Just as health care delivery is directed toward the needs of the individual, education of the health care professional is directed toward developing the student as a total person. Pre-professional collegiate education is therefore aimed at developing within students an appreciation for the contribution of both art and science to our culture while emphasizing potential contributions students can make to humankind and the environment. The responsibility of the professional educational setting then is to provide a climate that will offer students the opportunity to develop their maximum potential as members of society and of the profession. Professional education also has a responsibility for developing awareness in the student that excellence in any professional practice involves a commitment to lifelong learning.

The practice of clinical laboratory sciences requires compassion and sensitivity combined with intellectual maturity, honesty, and curiosity. The Clinical Laboratory Sciences faculty recognizes their responsibility to teach students to be fully aware of the implications of their actions as professional, essential members of the health care team.

ESSENTIAL FUNCTIONS

The clinical laboratory scientist must possess scientific curiosity and good judgment. Patience and thoroughness are necessary to perform test with precision. However, when necessary, the clinical laboratory scientist must be able to work quickly without sacrificing precision. Also important to the Scientist are an interest in technical instrumentation, manual dexterity, the ability to concentrate and normal eyesight. The scientist must possess communication and interpersonal skills to interact with patients and other member of the health care team.

1. **Manual Dexterity and Fine Motor Skills:**
   a. maneuver equipment to safely collect valid laboratory specimens from patients
   b. control laboratory equipment (i.e. pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures
   c. use a computer keyboard to operate laboratory instruments and to calculate, record, evaluate and transmit laboratory information
2. **Mobility:**
   a. move freely and safely about a laboratory
   b. reach laboratory benchtops and shelves, patients lying in hospital beds or patients seated in specimen collection chairs
   c. perform moderately taxing continuous physical work, often requiring prolonged sitting, over several hours
3. **Vision:**
   a. observe laboratory demonstrations in which biological specimens (i.e. body fluids, culture materials) are analyzed for their biochemical, hematological, cytologic, immunologic and microbiological components
   b. characterize the color, odor, clarity and viscosity of biological specimens, reagents or chemical reaction products
   c. operate a clinical grade binocular microscope to discriminate among fine structural and color differences of microscopic specimens, to include hue, shading and intensity
   d. read and comprehend text, numbers and graphs displayed in print and on a video monitor
4. **Hearing:**
   a. ability to adapt with assistive devices as needed in order to communicate understandably in English (i.e. phone receivers, hearing aid, etc.).
5. **Communication:**
   a. ability to verbally communicate understandably in English
   b. ability to communicate effectively in the written form of English
   c. ability to read, comprehend and follow directions printed in English
6. **Intellectual:**
   a. possess the following intellectual skills: comprehension, measurement, mathematical calculation, reasoning, integration, analysis, comparison, self-expression and critical thinking
7. **Behavioral:**
   a. provide technical and professional services while working within stresses of time constraints, emergency demands, ambiguous test ordering, ambivalent test interpretation, unpleasant biological specimens and distracting environment
   b. be willing to adapt to technical change
   c. recognize potentially hazardous materials, equipment and situation and follow safety procedures in order to minimize risk to patients, self and nearby individuals
   d. support and promote activities of fellow students and other health care professionals
   e. exhibit honesty, compassion, ethical and responsible behaviors to include:
      i. being forthright about errors or uncertainty
      ii. being able to critically evaluate self-performance
      iii. being able to accept constructive criticism
      iv. seeking professionally and personally enriching activities

BACCALAUREATE LEVEL PROFESSIONAL CURRICULUM

The Clinical Laboratory Sciences (CLS) Program in the School of Health Professions is a "2+2" program with students entering in their junior year. The student's education includes theoretical knowledge and practical experiences in:

- clinical chemistry
- immunology
- research
- microbiology
- endocrinology
- toxicology
- hematology
- molecular biology
- immunohematology

Educational experiences include classroom participation, student laboratories, and clinical rotations. Students gain the knowledge and skills necessary for professional growth with the ability to adapt in a changing profession. The CLS program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS, 5600 North River Road, Suite 720, Rosemont, IL 60018-5119; http://www.naacls.org; 773-714-8880).

During the junior year, the curriculum focuses on basic laboratory sciences and interdisciplinary and management courses. The senior year consists of advanced laboratory sciences classes. Students participate in clinical rotations during the first summer and second year of the program. They work with pathologists, clinical laboratory scientists, and other laboratory personnel to gain practical job-related experiences.

Upon successful completion of the program, the graduate earns a Bachelor of Science degree in Clinical Laboratory Sciences. Graduates of this program are eligible for national certification as medical laboratory scientists. Several certification examinations are administered by the national agencies.

Texas does not currently require a license to practice. Several states require a license to practice, and in some cases, an additional examination is required for licensure. Conviction of a felony offense may result in ineligibility to receive licensure in other states. Each case is considered on an individual basis by the state licensing agency. For further information, contact the licensing agency in the state where you plan to practice.

Regular Track Program

Our "2+2" Program gives the graduate more employment opportunities after graduation than the "3+1" program offered by some universities because students receive more in-depth research, teaching, and management education, aspects important in professional development paths for clinical laboratory scientists. The CLS "2+2" program also allows community college students and graduates from medical laboratory technician programs to progress directly into the baccalaureate degree program upon completion of 60 semester credit hours of undergraduate course work.

Part-Time On-Campus Program

If a student finds a full-time course load difficult to maintain without compromising his or her learning process, a part-time degree plan can be arranged. These part-time degree plans are usually designed for students with other major responsibilities, such as the need to work full-time or care for family members. We recommend that these degree plans be formulated on an individual basis with the student's assigned advisor. We also suggest that these part-time degree plans not extend beyond a three-year period.

Distance Education Opportunities and Career Advancement

LEAP (Laboratory Education and Advancement Project) Program—The LEAP (Laboratory Education and Advancement Project) program offers clinical laboratory technician (CLT) students an opportunity to receive credit for basic-level courses that have been completed through an associate degree program in Medical Laboratory Technology. In addition to prerequisite courses, LEAP students may transfer up to 21 credit hours toward requirements of the CLS program. LEAP students may choose to take courses on-campus with other students or may take courses without leaving their home community. Distance students pursuing LEAP will take their courses via video lectures, web based instructional lessons, and limited on-campus weekend laboratories. Distance

students receive the same faculty support, advisement, and personal contact as if they were on the UTMB Health campus in Galveston. The goal of the LEAP program is to provide critically needed laboratory personnel for health care facilities in rural Texas. The LEAP program maintains articulation agreements with numerous Texas colleges to provide MLT students an opportunity to receive credit for their MLT course work. An off-campus baccalaureate degree has been approved by The University of Texas System, The University of Texas System Board of Regents, and the Texas Higher Education Coordinating Board.

The University of Texas Permian Basin (UTPB) and University of Texas Health Science Center at Tyler Programs—Persons interested in professions in the medical laboratory field are able to earn a Bachelor of Science degree in Clinical Laboratory Sciences from the School of Health Professions at The University of Texas Medical Branch in Galveston by attending courses on the campuses of The University of Texas of the Permian Basin and The University of Texas Health Science Center at Tyler. A student may apply to the UTMB-UTPB or the UTMB-UTHSC-Tyler program if he or she is a biology major at the UTPB or the UTMB-UTHSC-Tyler or a medical laboratory technician (LEAP) in the Odessa/Midland or Tyler/Longview area. Video lectures, web-based didactic courses, and on-site laboratory classes in Odessa and Tyler enable UTPB and UTHSC-Tyler students to obtain their CLS degree. Some travel may be required for completing clinical preceptorships, depending upon the availability of training hospitals and clinics in your area. After successful completion of the program, the BS-CLS degree is conferred by UTMB.

Galveston College—An International Track has also been established in conjunction with Galveston College to allow individuals from other countries to obtain the prerequisites needed to enter the UTMB CLS program.

Categorical Certification Track

Another goal is to encourage individuals with a baccalaureate or higher degree to gain certification in one area of the laboratory. The SHP web-based CLS certificate program allows individuals completing a specific track to sit for categorical certification examinations. On-campus laboratories are required for this track unless a laboratory group has a previously established agreement with SHP for providing student laboratory experiences. Academic credit for categorical certification courses was approved, effective Fall 2010.

Baccalaureate Course of Study

The curriculum includes courses designed for the clinical laboratory scientist in the basic sciences, education and research, advanced courses in the major clinical areas, and clinical experience.

Scheduling requests from students who are off the normal schedule must be approved by the department faculty and the SHP Gradings and Promotion Committee. See the "Academic Progress" section of this bulletin, for additional information regarding academic performance standards, scholastic probation, and dismissal policies.

Additional degree plan options include the clinical laboratory technician (CLT) track, Three-Year Track, part-time student track, and the track for distance students. These are available for your review at our web site https://shp.utmb.edu/clinicallaboratorysciences/default.asp

Specific Program Prerequisites for Baccalaureate Program

To enter the CLS Program at UTMB, a student must complete a minimum of 60 semester credit hours of preparatory coursework. After the completion of approximately two years of clinical education at UTMB, in addition to the 60 hours of prerequisites, the student graduates with a Bachelor of Science in Clinical Laboratory Sciences degree.

We encourage you to contact the CLS admissions office at (409) 772-3055 to have your transcripts evaluated in order to determine what prerequisites you have satisfied.

Biological Sciences [1]	8
Electives [3]	4
English Composition and Literature	9
General Chemistry [1]	8
General Microbiology [1]	4
Human Physiology	3
Humanities	3
Mathematics [2]	3
Social/Behavioral Sciences	3
United States History	6
United States/Texas State Government	6
Visual or Performing Arts	3
TOTAL PREREQUISITE SEMESTER CREDIT HOURS	**60**

[1] Biology and chemistry science courses must be for science majors and include laboratories.

[2] Anatomy and Physiology II or Human Physiology will be required to satisfy 3 hours of Physiology.

[3] The mathematics course must be college algebra or higher.

**Please note: a grade of "B" or higher is required to satisfy any prerequisite. Students are strongly encouraged to take courses in genetics and statistics to satisfy their elective prerequisites.*

For more information about Clinical Laboratory Sciences distance education opportunities, continuing education, and categorical certification, please see: https://shp.utmb.edu/clinicallaboratorysciences/default.asp/.

Degree Plan

Fall, Year 1

CLLS 3200	Basic Methods/Intro. to Laboratory Operations	2
CLLS 3405	Intermediate Pathogenic Microbiology	4
CLLS 3414	Biochemistry	4
CLLS 3417	Hematology/Coagulation I	4
	TOTAL HOURS	**14**

Spring, Year 1

CLLS 3228	Professional Education Methods	2
CLLS 3514	Clinical Chemistry I	5
CLLS 4325	Advanced Microbiology/Mycology	3
CLLS 4417	Coagulation/Hematology II	4
	TOTAL HOURS	**14**

Summer, Year 1

CLLS 3310	Serology/Blood Bank	3
CLLS 3320	Intermediate Case Studies	3
CLLS 3331	Urinalysis (UA), Body Fluids & Parasitology	3
CLLS 4301	Clinical Preceptorship I	3
	TOTAL HOURS	**12**

Fall, Year 2

CLLS 4327	Methodology Development & Assessment I	3
CLLS 4302	Clinical Preceptorship II	3
CLLS 4310	Clinical Chemistry II	3
CLLS 4415	Immunology/Immunohematology	4
	TOTAL HOURS	**13**

Spring, Year 2

CLLS 3307	Molecular Biology	3
CLLS 4328	Methodology Development & Assessment II	3
CLLS 4303	Clinical Preceptorship III	3
CLLS 4313	Clinical Laboratory Science Management Skills	3
	TOTAL HOURS	**12**

Summer, Year 2

CLLS 4304	Clinical Preceptorship IV	3
CLLS 4309	Seminar in Clinical Laboratory Sciences	3
CLLS 4311	Case Studies in Clinical Laboratory Sciences	3
	(GRADUATION) TOTAL HOURS	**9**

TOTAL PROGRAM HOURS **74**

GRADUATE LEVEL PROFESSIONAL CURRICULUM

The CLS Department grants graduate level curriculum at the masters and doctorate level.

Doctorate in Clinical Laboratory Science (DCLS)

Doctorate in Clinical Laboratory Science (DCLS) is an advanced professional doctorate that prepares advanced practice clinical laboratory practitioners to increase efficiency, facilitate patient management outcomes, and improve timely access to accurate and appropriate laboratory information. Graduates of this program will participate directly in patient care decisions, monitoring laboratory utilization, and conducting research on the diagnostic process. The purpose of the program is the development of clinical laboratory sciences graduates who function as practitioners, community leaders, educators, and scholars in the profession of clinical laboratory science and the discipline of clinical laboratory science.

Specific Prerequisites for the DCLS

- Completion of a nationally-accredited program for clinical laboratory sciences at the baccalaureate degree level
- Professional certification as a generalist Medical Laboratory Scientist from the American Society for Clinical Pathology-Board of Certification, MT (ASCP) or MLS(ASCP)
- Minimum of three years of clinical laboratory experience, preferably as a generalist medical laboratory scientist
- overall 3.0 GPA and a 3.0 GPA in science courses on a 4.0 scale
- Graduate Record Examination (GRE) (general aptitude section). GRE institution code is 6887.

This requirement may be waived based upon previous graduate education, GPA, and related factors.

- Curriculum vitae/Resume and personal statement/essay addressing career goals and reasons for pursuing the DCLS degree
- Three letters of recommendation
- Personal interview (on campus or by video-audio conference)

In addition, students from non-English speaking countries must submit a Test of English as a Foreign Language (TOEFL) score. We require a minimum paper based TOEFL 550, computer-based TOEFL score of 213. This requirement may be substituted based upon previous education, GPA, and related factors.

Course of Study

Category	Semester Credit Hours
Required Courses	48
Prescribed Selectives	6
Free Electives	0
Doctoral Project	9
Other (Specify, e.g., internships, clinical work, residencies)	12
TOTAL [1]	75

[1] Please note that Education Code 61.059 limits funding for doctoral programs to 99 SCH, unless exempted by the THECB.

Degree plan

Fall 1, Year 1

CLLS 5319	Biostatistics	3
CLLS 5350	Hematopathology	3
CLLS 6351	Pathophysiology	3
	TOTAL HOURS	**9**

Spring 1 , Year 1

CLLS 5325	Advanced Microbiology/Infectious Disease	3
CLLS 5314	Advanced Clinical Chemistry/Toxicology	3
MSHP 5302	Introduction to Scientific Writing	3
	TOTAL HOURS	**9**

Summer 1, Year 1

CLLS 5312	Evidence Based Lab Medicine	3
CLLS 6130	DCLS Seminar 1	1
CLLS 6341	DCLS Clinical 1	3
	TOTAL HOURS	**7**

Fall 2, Year 2

CLLS 6301	Introduction to Health Assessment	3
CLLS 6315	Clinical Immunology and Transfusion	3
CLLS 6352	Pharmacology	3
	TOTAL HOURS	**9**

Spring 2, Year 2

CLLS 6320	Introduction to Epidemiology	3
CLLS 6307	Molecular Diagnostics	3
CLLS 5320	Laboratory Management	3
	TOTAL HOURS	**9**

Summer 2, Year 2

CLLS 6302	Evidence Based Practice	3
CLLS 6131	DCLS Seminar 2	1
CLLS 6342	DCLS Clinical 2	3
	TOTAL HOURS	**7**

Fall 3, Year 3

CLLS 6305	Quality systems, patient safety and medical error prevention	3
CLLS 6306	Diagnostic algorithms	3
CLLS 6371	DCLS Project 1 (Question Development)	3
	TOTAL HOURS	**9**

Spring 3, Year 3

CLLS 6372	DCLS Project II (Data Collection/Evaluation)	3
CLLS 6343	DCLS Clinical 3	3
CLLS63xx	Selective	3
	TOTAL HOURS	**9**

Summer 3, Year 3

CLLS 6373	DCLS Project III (Final Defense/Presentation)	3
CLLS 6132	DCLS Seminar 3	1
CLLS 6344	DCLS Clinical 4	3
	TOTAL HOURS	**7**

	TOTAL PROGRAM HOURS	**75**

Electives

CLLS 6348	Advanced Topics in Molecular Diagnosis	3
MSHP 5303	Health Care Policy for Clinicians	3
CLLS 5341	Global Health	3
CLLS 5093	Independent Investigative Studies	3
CLLS 6309	Global Health Internship	3
CLLS 6398	Designing Diagnostic Management Teams	3
CLLS 6399	Implementing Diagnostic Management Teams	3

SBB Postgraduate Certificate Program

The UTMB Specialist in Blood Bank Technology (SBB) Certificate Program, located in the Clinical Laboratory Science Department of the School of Health Professions, is a 12-month (3 semester) program of didactic and clinical instruction, awarding 19 graduate credits for completion of the curriculum. The UTMB SBB program provides comprehensive training in all areas of blood banking. The SBB Certificate Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of AABB Committee on Accreditation of SBB programs. The certificate program can be combined with the Masters in Transfusion Medicine degree program (TRM-MS) through completion of an additional 3-4 semesters, culminating in a research project and thesis. After completion of the Certificate Program, the student must challenge and pass the SBB(ASCP) exam to continue on with the TRM-MS degree program (see below).

CLLS 5160	Introduction to Research in Transfusion Medicine	1
CLLS 5161	Applied Immunohematology Practicum I	1
CLLS 5260	Blood Bank Laboratory Operations	2
CLLS 5261	Human Blood Group Systems I	2
CLLS 5162	Applied Immunohematology Practicum II	1
CLLS 5262	Human Blood Group Systems II	2
CLLS 5263	Advanced Immunohematology I	2
CLLS 5264	Seminar in Transfusion Medicine I	1
CLLS 5095	Seminar in Transfusion Medicine II	1
CLLS 5163	Applied Immunohematology Practicum III	1
CLLS 5264	Advanced Immunohematology II	2
CLLS 5360	Advanced Transfusion Medicine Principles	3
	TOTAL HOURS	**19**

Specific Program Prerequisites for the SBB Certificate Program

- Baccalauteate degree in Medical Laboratory Science or a related science discipline
- Overall 2.75 GPA on a 4.0 scale.
- 2 years full time post-baccalaureate work experience relevant to an immunohematology area.

Masters of Science degrees

The Masters of Science degree in Clinical Laboratory Science (CLS) in the School of Health Professions is designed to prepare the clinical laboratory scientist, or basic science undergraduate, for a career in research, teaching or management within laboratory medicine. Graduates of this program qualify for research, teaching and managerial positions in academia, clinical laboratories and in industry.

The CLS Department offers 4 Masters of Science degree tracks: 3+2 combined Bachelors and Master Program, Masters for individuals with a baccalaureate degree in biological sciences or related major, Masters for CLS certified graduates, and a Masters in Transfusion Medicine.

3+2 Combination Bachelors and Masters Degree Program

The 3+2 degree program is for students who are attending a four year college that has a 3+2 articulation agreement with the UTMB-CLS Program. The student enrolled in the 3+2 Program will be required to complete a minimum three (3) years (90 semester credits) at the originating institution. The student will then attend UTMB for approximately two (2) years and complete 85 semester credits. Upon successful completion of the first year, the student will be awarded a bachelor's degree from the originating institution. Upon successful completion of the UTMB-CLS Masters curriculum, the student will be awarded a master's degree from UTMB. The student's college must be a partner with the UTMB Clinical Laboratory Science program. Contact your college advisor to find out about your college's eligibility. If your college is not a partner speak to your Department Chair or your academic advisor about partnering with UTMB for this degree option.

For Clinical Laboratory Science Certified Graduates:

The Master of Science degree in Clinical Laboratory Science (CLS) in the School of Health Professions is designed to prepare the clinical laboratory scientist, for a career in research, teaching or management within clinical laboratory medicine. Graduates of this program will obtain research, teaching and managerial positions in academia, clinical laboratories and in industry.

For Individuals with B.S. in biology, chemistry, related majors but not certified medical laboratory scientist:

The Master of Science degree in Clinical Laboratory Science (CLS) in the School of Health Professions is designed to prepare the basic science undergraduate, for a career in research, teaching or management within clinical laboratory medicine. Graduates of this program will obtain research, teaching and managerial positions in academia, clinical laboratories and in industry.

For individuals holding current SBB(ASCP) certification:

The Masters of Science degree in Transfusion Medicine is designed to prepare specialists in blood banking for a career in consultation, administration and supervision or research in the field of immunohematology and transfusion therapy. The UTMB SBB Certificate Program (see above) can be combined with the Masters in Transfusion Medicine degree program (TRM-MS) through completion of an additional 3-4 semesters, culminating in a research project and thesis. After completion of the Certificate Program, the student must challenge and pass the SBB(ASCP) exam to continue on with the TRM-MS degree program.

Prerequisites for the Masters of Science in CLS Graduate Programs

Applicants to the clinical laboratory science master degree programs must have either a basic science or clinical laboratory science bachelor's degree (depending on the track).

Specific Prerequisites for the MSCLS

- Overall 3.0 GPA and a 3.0 GPA in science courses on a 4.0 scale
- Graduate Record Examination (GRE) (general aptitude section). GRE institution code is 6887.

This requirement may be substituted based upon previous education, GPA, and related factors.

- Three letters of recommendation
- Personal interview (on campus or by video-audio conference)

Previous laboratory experience is advantageous for those in the CLSC-MS track. In addition, students from non-English speaking countries must submit a Test of English as a Foreign Language (TOEFL) score. We require a minimum paper based TOEFL 550, computer-based TOEFL score of 213. This requirement may be substituted based upon previous education, GPA, and related factors.

For more information about Clinical Laboratory Sciences distance education opportunities, continuing education, and categorical certification, please see: http://shp.utmb.edu/cls/.

Master of Science in Clinical Laboratory Science for CLS graduates (CLSC-MS)

This program is a 30 credit online master degree for clinical laboratory professionals who hold a baccalaureate degree and are certified to practice clinical laboratory sciences. The program is designed for practicing professionals who want to advance their knowledge and skills in the clinical laboratory sciences and develop new proficiencies needed to meet the challenges of a changing profession. The program will develop an individual's ability in management skills, correlating current techniques with potential new techniques, validating new procedures, and conducting basic research within the clinical laboratory aimed at improving the delivery of clinical laboratory services. This degree track may also be taken on-campus and completed wither full or part time. Upon completion of this program, the individual will be awarded the Master of Science in Clinical Laboratory Science degree from the University of Texas Medical Branch. The student also has the option to take 1 or more elective courses.

Course of Study

Required Courses

CLLS 5311	Clinical Correlation	3
CLLS 5319	Biostatistics	3
CLLS 5320	Laboratory Management	3
CLLS 5327	Laboratory Validation Studies	3
CLLS 5329	Research in CLS	3
CLLS 5330	Clinical Investigative Studies	3
CLLS 5333	Master's Thesis 2	3
CLLS 5414	Biochemistry 3	4
CLLS 6307	Molecular Diagnostics 1	3
MSHP 5301	Medical Ethics	3
MSHP 5302	Introduction to Scientific Writing	3

Elective Courses

CLLS 5328	Professional Education Methods	3
CLLS 5339	Clinical Management Preceptorship	3
CLLS 5340	Evidence-based Specialty Preceptorship	3
CLLS 5391	Topics in Global Health	3
MSHP 5303	Health Policy	3
	TOTAL HOURS	**30/34**

[1] *This course has a laboratory component. Students enrolled in this course will be required to attend wet laboratories at participating campuses for approximately four (4) days within one (1) week during the semester to learn molecular procedures related to immunohematology.*

[2] *The student will submit a project topic for approval. Upon approval, the student will submit an IRB, conduct the project and write a paper describing the project, findings and conclusions.*

[3] *Students who have successfully completed Biochemistry for science majors with a B or better may request course equivalency*

Master of Science in Clinical Laboratory Science for Science Graduates (CLSN-MS)

This program is an 80-credit blended (online with on-campus laboratory experiences) master's degree for individuals holding a Bachelor of Science in biology, chemistry, or a related major and who are not certified medical technologists/clinical laboratory scientists but who desire a career in the clinical laboratory sciences. Upon completion, these individuals will be eligible to take a national examination for certification as a medical technologist/clinical laboratory scientist. The program will develop an individual's ability to: 1) utilize the theoretical concepts that are the basis of clinical laboratory tests to interpret the significance of results; 2) propose the clinical significance of clinical laboratory tests results; 3) trouble shoot causes of laboratory results with questionable quality control results; 4) recommend appropriate follow up laboratory testing; 5) utilize an advanced knowledge base in management; 6) determine correlation of current techniques with potential new techniques; 7) validate procedures, conduct basic research within the clinical laboratory; and 8) formulate a research question, conduct the study, and write/publish the findings. The program may be taken on one of the three campuses*. This degree track can be taken totally on-campus and completed either full or part time. Upon completion of this program, the individual would be awarded the Master of Science in Clinical Laboratory Science degree from the University of Texas Medical Branch. The student also has the option to take 1 or more elective courses.

**Campuses available include UTMB-Galveston, UT Permian Basin, and UTHealth Northeast at Tyler.*

*Specific Prerequisites for CLSN-MS Track**

Biological Sciences [1]	8
General Microbiology [1]	4
General Chemistry [1]	8
Human Physiology [2]	3
Mathematics [3]	3
Science Electives	4
Total Prerequisite Semester Credit Hours	**30**

[1] Biology and chemistry science courses must be for science majors and include laboratories.
[2] Anatomy and Physiology II or Human Physiology will be required to satisfy 3 hours of Physiology.
[3] The mathematics course must be college algebra or higher.
** Please note: a grade of "B" or higher is required to satisfy any prerequisite. Students are strongly encouraged to take courses in genetics and statistics to satisfy their elective prerequisites.*

Course of Study

Required Courses

CLLS 5200	Laboratory Techniques	2
CLLS 5307	Seminar [1]	3
CLLS 5310	Serology/Blood Banking	3
CLLS 5311	Clinical Correlation	3
CLLS 5319	Biostatistics	3
CLLS 5320	Laboratory Management	3
CLLS 5327	Laboratory Validation Studies	3
CLLS 5329	Research in CLS	3
CLLS 5330	Clinical Investigative Studies	3
CLLS 5331	Urinalysis, Body Fluids & Parasitology	3
CLLS 5333	Master's Thesis [2]	3
CLLS 5335	Clinical Preceptorship I	3
CLLS 5336	Clinical Preceptorship II	3
CLLS 5337	Clinical Preceptorship III	3
CLLS 5338	Clinical Preceptorship IV	3

CLLS 5405	Intermediate Pathogenic Microbiology	4
CLLS 5414	Biochemistry [3]	4
CLLS 5415	Immunology/Immunohematology	4
CLLS 5417	Hematology/Coagulation I	4
CLLS 5506	Clinical Chemistry I	5
CLLS 6305	Advanced Microbiology/Mycology	3
CLLS 6307	Molecular Diagnostics	3
CLLS 6310	Clinical Chemistry II	3
CLLS 6417	Coagulation/Hematology II	4
MSHP 5301	Medical Ethics	3
MSHP 5302	Introduction to Scientific Writing	3

[1] This course has a laboratory component. Students enrolled in this course will be required to attend wet laboratories at participating campuses for approximately four (4) days within one (1) week during the semester to learn molecular procedures related to immunohematology.

[2] The student will submit a project topic for approval. Upon approval, the student will submit an IRB, con- duct the project and write a paper describing the project, findings and conclusions.

[3] Students who have successfully completed Biochemistry for science majors with a B or better may request course equivalency.

Elective Courses

CLLS 5093	Independent Investigative Studies	3
CLLS 5328	Professional Education Methods	3
CLLS 5339	Clinical Management Preceptorship	3
CLLS 5340	Evidence-based Specialty Preceptorship	3
CLLS 5391	Topics in Global Health	3
MSHP 5303	Health Care Policy	3
TOTAL HOURS		**80/84**

Master of Science in Transfusion Medicine for CLS/SBB certified individuals (TRM-MS)

The Master of Science degree in Transfusion Medicine is designed to prepare Specialists in Blood Banking for a career in consultation, administration and supervision or research in the field of immunohematology and transfusion therapy.

The MS in Transfusion Medicine program is a 30-credit online master's degree for individuals holding a Bachelor of Science in clinical laboratory science/medical technology or associated science and who have certification as specialist in blood bank technology.

The Master of Science in Transfusion Medicine is designed to provide graduates with advanced knowledge in consultation services to other health care workers, the administration and supervision of transfusion services and in conducting and publish research in the field of immunohematology and transfusion therapy. This program is offered as a f part-time distance curriculum. Upon completion of this program, the individual would be awarded the Master of Science in Transfusion Medicine degree from the University of Texas Medical Branch.

Course of Study

Credits from SBB Postgraduate Certificate Program	6
Additional Required Credits	24
TOTAL HOURS	**30**

Required Courses

CLLS 5307	Molecular Diagnostics [1]	3
CLLS 5311	Evidence Based Laboratory Medicine	3
CLLS 5319	Biostatistics	3
CLLS 5160	Introduction to Research in Transfusion Medicine [3]	1
CLLS 5265	Advanced Research in Transfusion Medicine	2
CLLS 5330	Clinical Investigative Studies	3
CLLS 5333	Master's Thesis [2]	3
CLLS 5260	Blood Bank Laboratory Operations[3]	2
CLLS 5360	Advanced Transfusion Medicine Principles[3]	3
MSHP 5302	Introduction to Scientific Writing	3
MSHP 5303	Health Care Policy	3

TOTAL HOURS **40**

[1] This course has a laboratory component. Students enrolled in this course will be required to attend wet laboratories at UTMBs for approximately four (4) days within one (1) week during the semester to learn molecular procedures related to immunohematology.

[2] The student will submit a project topic for approval. Upon approval, the student will submit an IRB, conduct the project and write a paper describing the project, findings and conclusions.

[3] Credit for these courses given if taken with SBB Curriculum

Elective Courses

CLLS 5093	Independent Investigative Studies	3
CLLS 5328	Professional Education Methods	3
CLLS 5339	Clinical Management Preceptorship	3
CLLS 5340	Evidence-based Specialty Preceptorship	3
CLLS 5391	Topics in Global Health.	3

TOTAL HOURS **24**

PhD Graduate Program in Clinical Science

The Department of Clinical Laboratory Sciences (CLS) in collaboration with the Department of Preventive Medicine and Community Health's Clinical Science Program offers graduate education to provide advanced education for clinical laboratory scientists/medical technologists. The aim of the collaboration is to educate individuals in areas of research which translate the principles of new basic science laboratory techniques into clinical laboratory practice, study patient outcomes based on treatment protocols utilizing laboratory testing and design diagnostic algorithms for the use in new medical techniques.

CATEGORICAL CERTIFICATE LEVEL PROFESSIONAL CURRICULUM CHEMISTRY, HEMATOLOGY, MICROBIOLOGY AND IMMUNOHEMATOLOGY

See Chemistry and Hematology courses for Dual Categorical Certificate requirements, 26-30 SCH's

Admission Requirements for CLS Department Categorical Certificates

To be considered for admission to a Categorical Certificate Program in Clinical Laboratory Science, all applicants must present official documentation of the following:

1. Bachelor's degree with a major in biological, chemical, and/or medical sciences.
2. A minimum cumulative grade point average (GPA) of 2.0 on a 4.0 scale.

3. A grade of "C" or higher on prerequisite courses listed below.
4. English translations are required for all foreign transcripts. They must be evaluated by an approved agency on a course by course basis. If the degree is not indicated on the transcript, a copy of the diploma and/or certificate is required.
5. For students whose native language is not English, a minimum score of 550 (213 on the computer based exam) on the Test of English as a Foreign Language (TOEFL) or 6.5 on the International English Language Testing System (IELTS). This requirement may be substituted based upon previous education, GPA, and related factors.
6. International applicants who elect to apply to the Bachelor of Science in CLS program after successfully completing one or more categorical certificates must meet all requirements of first time baccalaureate students. This includes the Texas Social Science and Texas Success Initiative (TSI) and the Texas Core Curriculum consisting of 42 semester credit hours in specific component areas. See the UTMB General Catalog for details. [http://www.utmb.edu/enrollmentservices/catalog.asp]

PhD Graduate Program in Clinical Science

The Department of Clinical Laboratory Sciences (CLS) in collaboration with the Department of Preventive Medicine and Community Health's Clinical Science Program offers graduate education to provide advanced education for clinical laboratory scientists/medical technologists. The aim of the collaboration is to educate individuals in areas of research which translate the principles of new basic science laboratory techniques into clinical laboratory practice, study patient outcomes based on treatment protocols utilizing laboratory testing and design diagnostic algorithms for the use in new medical techniques.

CATEGORICAL CERTIFICATE LEVEL PROFESSIONAL CURRICULUM CHEMISTRY, HEMATOLOGY, MICROBIOLOGY AND IMMUNOHEMATOLOGY

See Chemistry and Hematology courses for Dual Categorical Certificate requirements, 26-30 SCH's

Admission Requirements for CLS Department Categorical Certificates

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1. Bachelor's degree with a major in biological, chemical, and/or medical sciences.
2. A minimum cumulative grade point average (GPA) of 2.0 on a 4.0 scale.
3. A grade of "C" or higher on prerequisite courses listed below.
4. English translations are required for all foreign transcripts. They must be evaluated by an approved agency on a course by course basis. If the degree is not indicated on the transcript, a copy of the diploma and/or certificate is required.
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6. International applicants who elect to apply to the Bachelor of Science in CLS program after successfully completing one or more categorical certificates must meet all requirements of first time baccalaureate students. This includes the Texas Social Science and Texas Success Initiative (TSI) and the Texas Core Curriculum consisting of 42 semester credit hours in specific component areas. See the UTMB General Catalog for details. [http://www.utmb. edu/enrollmentservices/catalog.asp]

Prerequisite Requirements for CLS Department Categorical Certificates

Courses must include 30 semester hours in biological, chemical, and/or medical sciences for science majors including:

Specific Prerequisites for Categorical Certificate Tracks

Biological Sciences [1]	8
General Microbiology [1, 4]	4
General Chemistry [1]	8
Human Physiology [2]	3
Mathematics [3]	3
Science Electives	4
Total Prerequisite Semester Credit Hours	**30**

[1] Biology and chemistry science courses must be for science majors and include laboratories.

[2] Anatomy and Physiology II or Human Physiology will be required to satisfy 3 hours of Physiology and is required for all tracks except Microbiology.

[3] The mathematics course must be college algebra or higher.

4 General Microbiology is required for the microbiology track only

**Please note: a grade of "B" or higher is required to satisfy any prerequisite. Students are strongly encouraged to take courses in genetics and statistics to satisfy their elective prerequisites.*

Courses of Study

Chemistry Categorical Certificate

FALL

CLLS 3200	Basic Methods and Intro to Lab Operations	2
CLLS 3414	Biochemistry (if not earned as prerequisite)	(4)
	TERM HOURS	**2 (6)**

SPRING

CLLS 3231	Urinalysis and Body Fluids	2
CLLS 3514	Clinical Chemistry I	5
CLLS 4313	Clinical Laboratory Science Management Skills	3
	TERM HOURS	**10**

SUMMER

CLLS 4301	Clinical Preceptorship I	3
CLLS 4310	Clinical Chemistry II	3
	TERM HOURS	**6**

TOTAL CERTIFICATE HOURS **18 (22)**

Hematology Categorical Certificate

FALL

CLLS 3200	Basic Methods and Intro to Lab Operations	2
CLLS 3417	Hematology and Coagulation I	4
	TERM HOURS	**6**

SPRING

CLLS 3231	Urinalysis and Body Fluids	2
CLLS 4417	Coagulation and Hematology II	4
CLLS 4313	Clinical Laboratory Science Management Skills	3
	TERM HOURS	**9**

SUMMER

CLLS 4301	Clinical Preceptorship I	3
	TERM HOURS	**3**

TOTAL CERTIFICATE HOURS	**18**

Hematology & Chemistry Categorical Certificate

FALL

CLLS 3200	Basic Methods and Intro to Lab Operations	2
CLLS 3414	Biochemistry (if not earned as prerequisite)	(4)
CLLS 3417	Hematology and Coagulation I	4
	TERM HOURS	**6 (10)**

SPRING

CLLS 3231	Urinalysis and Body Fluids	2
CLLS 3514	Clinical Chemistry I	5
CLLS 4417	Coagulation and Hematology II	4
CLLS 4313	Clinical Laboratory Science Management Skills	3
	TERM HOURS	**14**

SUMMER

CLLS 4301	Clinical Preceptorship I	3
CLLS 4310	Clinical Chemistry II	3
	TERM HOURS	**6**

TOTAL CERTIFICATE HOURS	**26 (30)**

Immunohematology Categorical Certificate

SPRING

CLLS 3200	Basic Methods and Intro to Lab Operations	2
CLLS 4313	Clinical Laboratory Science Management Skills	3
	TERM HOURS	**5**

SUMMER

CLLS 3310	Serology/Blood Bank	3
	TERM HOURS	**3**

FALL

CLLS 4301	Clinical Preceptorship I	3
CLLS 4315	Immunohematology/Immunology	4
	TERM HOURS	**7**

TOTAL CERTIFICATE HOURS	**15**

Microbiology Categorical Certificate

FALL

CLLS 3200	Basic Methods and Intro to Lab Operations	2
CLLS 3405	Intermediate Pathogenic Microbiology	4
	TERM HOURS	**6**

SPRING

CLLS 4325	Advanced Microbiology/Mycology	3
CLLS 3229	Parasitology	2
CLLS 4313	Clinical Laboratory Science Management Skills	3
	TERM HOURS	**8**

SUMMER

CLLS 4301	Clinical Preceptorship I	3
	TERM HOURS	**3**

TOTAL CERTIFICATE HOURS 17

Course Descriptions:

(In numerical sequence; hours of lecture, lab, clinical, conference, discussion or seminar may be substituted by one or more learning activities; see course syllabus for details.) These courses are open to Clinical Laboratory Sciences majors only unless otherwise specified or with consent of the departmental chairperson.

CLLS 3200 Basic Methods and Introduction to Lab Operations 2 Credits

The student will have the opportunity to: 1) describe correctly techniques and procedures for collecting blood samples; 2) perform successful blood collection by venipuncture and fingerstick; 3) implement appropriate techniques for handling and storing of various types of samples; 4) explain and comply with general laboratory safety practices; 5) describe and appropriately perform basic microscopy, spectrometry, pipetting, and calibration techniques; 6) discuss the role of the clinical laboratory scientist within the divisions of the clinical laboratory; and 7) observe the inter-relationship of clinical laboratory scientists within divisions of the clinical laboratory and health care. (12 lecture, 22 lab, and 45 clinical hours per enrollment period). *Prerequisites: None.*

CLLS 3228 Professional Education Methods 2 Credits

The student will be given the opportunity to demonstrate application in the presentation of health care continuing education and in-service of: 1) methods to access and analyze the health care professional's needs; 2) construction of learner-and content-appropriate objectives; and 3) evaluation techniques appropriate to the course material presented. (30 lecture hours per enrollment period). *Prerequisites: None.*

CLLS 3229 Parasitology 2 Credits

The student will be given the opportunity to: 1) demonstrate the ability to select and perform appropriate techniques for the detection of human parasites; and 2) the ability to identify clinically significant human parasites and associate them with the disease process elicited. (15 lecture and 45 lab hours per enrollment period). *Prerequisites: None.*

CLLS 3231 Urinalysis (UA) and Body Fluids 2 Credits

The student will be given the opportunity to: 1) demonstrate the knowledge of the physiological conditions under which normal and abnormal urine components are formed; and 2) the physical, chemical, and microscopic properties of urine and body fluids in both normal and pathologic conditions. (15 lecture and 45 lab hours per enrollment period). *Prerequisites: None.*

CLLS 3307 Molecular Biology **3 Credits**

This course is designed to offer the student an introduction to the basic concepts of molecular biology and principles of genetics, as well as a presentation of the methods, underlying concepts, and applications of recombinant DNA technology. The student will be given the opportunity to: 1) familiarize themselves with many of the basic concepts of molecular biology, including but not limited to DNA replication, transcription, translation, DNA damage and repair, mutagenesis, and genetic exchange; 2) perform experiments that will follow a typical course of research, including cloning, bacterial transformation, DNA isolation, identification, sequencing, mammalian tissue culture techniques, and protein expression and purification; 3) perform a number of clinically relevant procedures including isolation of human chromosomal DNA and analysis of DNA, utilizing techniques such as nucleic acid transfer, hybridization, PCR analysis, and DNA fingerprinting; and 4) perform accurately all routine procedures utilized during the course, by completion of the unit in which they are presented, as well as describe laboratory-induced errors for each type of procedure. (30 lecture hours and 60 lab hours per enrollment period). *Prerequisites: CLLS 3414 Biochemistry.*

CLLS 3310 Serology/Blood Bank **3 Credits**

The student will be given the opportunity to demonstrate: 1) application of the theoretical concepts of immunological techniques to the evaluation of specific methodologies; 2) application of the theoretical concepts of immunological techniques to evaluate the results obtained when testing patient samples and determine whether these results can be safely reported; 3) use of the theoretical concepts of immunological techniques to determine what steps need to be taken in resolving technical problems with a test; 4) determine what the presence of a specific antigen or antibody indicates about the patient's current status related to a specific disease; 5) apply knowledge of the antigen and antibody characteristics of blood group systems in procedures to detect and identify them; 6) utilize the principles of donor selection, compatibility testing, and component preparation to select appropriate donors, determine donor/recipient compatibility, and appropriately prepare and handle components; and 7) perform immunohematological techniques and determine whether the results can be reported. (30 lecture and 45 lab hours per enrollment period). *Prerequisites: None.*

CLLS 3320 Intermediate Case Studies **3 Credits**

The student will be given the opportunity to: 1) apply the problem-solving and analysis skills to patient simulations incorporating data from the four major content areas; 2) identify potential legal and ethical problems presented by the case; and 3) determine appropriate course(s) of action to be taken in the case in order to provide optimal patient care. (45 conference, discussion, or seminar hours per enrollment period). *Prerequisites: Successful completion of the first two semesters' course content or approval of the department chair.*

CLLS 3331 Urinalysis (UA), Body Fluids and Parasitology **3 Credits**

The student will be given the opportunity to demonstrate: 1) knowledge of the physiological conditions under which normal and abnormal urine components are formed; 2) the physical, chemical, and microscopic properties of urine and body fluids in both normal and pathologic conditions; 3) the ability to select and perform appropriate techniques for the detection of human parasites; and 4) the ability to identify clinically significant human parasites and associate them with the disease process elicited. (30 lecture hours and 45 lab hours per enrollment period). *Prerequisites: None.*

CLLS 3405 Intermediate Pathogenic Microbiology 4 Credits

The student will be given the opportunity to demonstrate: 1) knowledge of medically relevant microorganisms through their cellular and colonial characteristics as well as their basic biochemical reactions; 2) an understanding of the pathogenesis and pathology of infectious diseases in humans; and 3) basic skills in selection and performance of appropriate methods for detection, isolation, and identification of microorganisms. (30 lecture hours and 90 lab hours per enrollment period). *Prerequisites: General Microbiology (4 hours).*

CLLS 3414 Biochemistry 4 Credits

The student will be given the opportunity to demonstrate: 1) knowledge of the basic organic concepts utilized in biochemistry; 2) knowledge of the chemistry and metabolism of carbohydrates, proteins, lipids, and nucleic acids; 3) knowledge of the interactions of enzymes, hormones, and vitamins as an integral part of the metabolic pathways; and 4) the ability to discuss the metabolic errors in disease states. (60 lecture hours per enrollment period). Prerequisites: None.

CLLS 3417 Hematology and Coagulation I 4 Credits

The student will be given the opportunity to: 1) successfully perform both venipuncture and capillary puncture; 2) correlate errors or problems of the venipuncture and capillary puncture with erroneous hematologic/coagulation test results; 3) recognize and correlate significant features and processes related to formation, function, and morphology of the blood's normal cellular elements; 4) recognize and correlate the basic components of coagulation/hemostasis, including their source, basic structure, and function; 5) accurately perform basic hematologic/coagulation test procedures and calculations; 6) recognize abnormal hematologic/coagulation test results and determine whether the findings are more commonly associated with general disease processes versus hematologic/hemostatic disorders; 7) utilize routine quality assurance guides to identify abnormal hematologic results and correlate these with potential causes or sources of error. The major emphasis of this course will be limited to the basic concepts of hematology and coagulation, and the appropriate performance, analysis and trouble-shooting of basic techniques, and will have limited content introduction to abnormal findings that suggest the need for specific advanced techniques. (38 lecture and 68 lab hours per enrollment period). *Prerequisites: None.*

CLLS 3514 Clinical Chemistry I 5 Credits

The student will be given the opportunity to demonstrate: 1) an understanding of the interrelationship of human metabolic functions in both normal and disease states; 2) knowledge of the correlation of chemistry laboratory test results to normal and abnormal human physiology; 3) basic spectrophotometry and its relationship to Beer's Law; 4) ability to explain the principles of analytical procedures and pertinent instrumentation involved in basic laboratory procedures; 5) skills in the performance of manual and automated procedures; and 6) quality control techniques in evaluating laboratory data. (60 lecture and 45 lecture hours per enrollment period). *Prerequisites: CLLS 3414 Biochemistry OR 4 hours Organic Chemistry AND 3 hours Biochemistry.*

CLLS 4001 Specialty Research Preceptorship 1–3 Credits

This course is designed to give students experience in performing work in a specialty and/or research laboratory including but not limited to advanced techniques, rural, commercial, and public health laboratories. It will prepare Clinical Laboratory Sciences graduates for pursuing alternate careers such as research scientists in industrial and basic science laboratories. The student will be given the opportunity to: 1) compare and contrast the analytic techniques required in these

settings with typical laboratory facilities; 2) develop advanced techniques unique to the type of facility involved; 3) acquire more extensive expertise and knowledge base in an area of special interest to the student; and 4) become familiar with current special techniques that may reflect standard practice in the near future. (50–150 clinical hours per credit). *Prerequisites: Completion of related didactic courses and approval of course instructor or department chair.*

CLLS 4003 Clinical Research Laboratory 1–3 Credits

This course will provide the student with the opportunity to assist in performing a clinical research project. The student will be given the opportunity to: 1) develop clinical assays using automated clinical analyzers used in patient care; 2) submit an article on their work to a peer-reviewed journal or present an abstract at either a national or regional meeting; 3) perform techniques which calibrate and validate that instruments are in control; 4) perform techniques used in assay validation and comparison; and 5) describe programming and automation of advanced instruments. (45–135 lab hours per enrollment period). *Prerequisites: Approval of the project director and the department chair.*

CLLS 4018 Topics in Global Health 1-3 Credits

This course is the CLS portion of the Global Health Training Program. It provides an overview of critical issues in understanding global health challenges in contemporary society within an inter-professional learning environment. Topics covered include public health and epidemiology, health equity and social determinants of health, human rights and ethics, the global health landscape and health care systems, culturally appropriate health care, management of complex humanitarian emergencies, primary care and prevention, injuries and therapy, tropical and travel medicine, and globalization. (15 hours lecture, 15 hours seminar/discussion board and 15 hours field work or alternate assignment). *Prerequisites: None. Note: This course may be repeated for credit when content varies.*

CLLS 4090 Topics in Clinical Laboratory Sciences 1–3 Credits

The student will be given the opportunity to broaden understanding of his or her role as clinical laboratory scientist by: 1) participating in a variety of learning experiences, including seminars, lectures, public speeches, and independent study; and 2) demonstrating the ability to gather information on clinical laboratory sciences-related topics and issues, analyze the information, and present findings or conclusions. Such studies may be directly related to clinical laboratory sciences, or they may deal with concepts, issues, and tends in allied health sciences. (Arranged lab and lecture hours per enrollment period.) *Prerequisites: None. Note: This course may be repeated for credit when content varies.*

CLLS 4093 Independent Investigative Studies 1–3 Credits

The student will be given the opportunity to: 1) conduct, under supervision, investigations into topics specific to his or her professional discipline or that deal with topics or problems relating to health care and allied health in general; and 2) complete a report on his or her studies. (Arranged lab and lecture hours per enrollment period). *Prerequisites: None. Note: This course may be repeated for credit when content varies.*

CLLS 4301 Clinical Preceptorship I 3 Credits

The preceptorship courses are a series of clinical experiences in microbiology, hematology, clinical chemistry, and immunohematology. The student will be assigned to one of the four clinical areas. The student will be given the opportunity to demonstrate: 1) the ability to apply knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) the ability to

integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) an attitude of cooperation and concern in interpersonal relationships with patients and health care workers; and 4) an appreciation of the ethical foundations of the clinical laboratory sciences profession. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (144 clinical hours per enrollment period). *Prerequisites: Must have completed the related didactic courses. Note: To achieve a passing grade, the student's performance must be at entry level (70 percent) or greater in the designated subunits of that clinical area.*

CLLS 4302 Clinical Preceptorship II 3 Credits

The student will be assigned to one of the four clinical areas. The student will be given the opportunity to demonstrate: 1) the ability to apply knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) the ability to integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) an attitude of cooperation and concern in interpersonal relationships with patients and health care workers; and 4) an appreciation of the ethical foundations of the clinical laboratory sciences profession. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (144 clinical hours per enrollment period). *Prerequisites: Must have completed the related didactic courses. Note: To achieve a passing grade, the student's performance must be at entry level (70 percent) or greater in the designated subunits of that clinical area.*

CLLS 4303 Clinical Preceptorship III 3 Credits

The student will be assigned to one of the four clinical areas. The student will be given the opportunity to demonstrate: 1) the ability to apply knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) the ability to integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) an attitude of cooperation and concern in interpersonal relationships with patients and health care workers; and 4) an appreciation of the ethical foundations of the clinical laboratory sciences profession. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (144 clinical hours per enrollment period). *Prerequisites: Must have completed the related didactic courses. Note: To achieve a passing grade, the student's performance must be at entry level (70 percent) or greater in the designated subunits of that clinical area.*

CLLS 4304 Clinical Preceptorship IV 3 Credits

The student will be assigned to one of the four clinical areas. The student will be given the opportunity to demonstrate: 1) the ability to apply knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) the ability to integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) an attitude of cooperation and concern in interpersonal relationships with patients and health care workers; and 4) an appreciation of the ethical foundations of the clinical laboratory sciences profession. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (144 clinical hours per enrollment period). *Prerequisites: Must have completed the related didactic courses. Note: To achieve a passing grade, the student's performance must be at entry level (70 percent) or greater in the designated subunits of that clinical area.*

CLLS 4305 Honors Clinical Preceptorship I 3 Credits

The preceptorship courses are a series of clinical experiences in microbiology, hematology, clinical chemistry, and immunohematology. The student will be assigned to a different clinical area in each preceptorship. The student will be given the opportunity to demonstrate: 1) the ability to apply knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) the

ability to integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) an attitude of cooperation and concern in interpersonal relationships with patients and health care workers; and 4) an appreciation of the ethical foundations of the clinical laboratory sciences profession. This preceptorship will be offered on an accelerated basis, with the student in the preceptorship at the peak hours. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (72 clinical hours per enrollment period). *Prerequisites: Must have successfully completed the rel.ated didactic courses, have a CLT degree and approval by the department chair. Note: To achieve a passing grade, the student's performance must be at entry level (70 percent) or greater in the designated subunits of that clinical area.*

CLLS 4306 Honors Clinical Preceptorship II 3 Credits

The student will be assigned to one of the four clinical areas. The student will be given the opportunity to demonstrate: 1) the ability to apply knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) the ability to integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) an attitude of cooperation and concern in interpersonal relationships with patients and health care workers; and 4) an appreciation of the ethical foundations of the clinical laboratory sciences profession. This preceptorship will be offered on an accelerated basis, with the student in the preceptorship at the peak hours. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (72 clinical hours per enrollment period). *Prerequisites: Must have successfully completed the related didactic courses, have a CLT degree and approval by the departmental chairman. Note: To achieve a passing grade, the student's performance must be at entry level. (70 percent) or greater in the designated subunits of that clinical area.*

CLLS 4307 Honors Clinical Preceptorship III 3 Credits

The student will be assigned to one of the four clinical areas. The student will be given the opportunity to demonstrate: 1) the ability to apply knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) the ability to integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) an attitude of cooperation and concern in interpersonal relationships with patients and health care workers; and 4) an appreciation of the ethical foundations of the clinical laboratory sciences profession. This preceptorship will be offered on an accelerated basis, with the student in the preceptorship at the peak hours. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (72 clinical hours per enrollment period). *Prerequisites: Must have successfully completed the related didactic courses, have a CLT degree and approval by the departmental chairman. Note: To achieve a passing grade, the student's performance must be at entry level (70 percent) or greater in the designated subunits of that clinical area.*

CLLS 4308 Honors Clinical Preceptorship IV 3 Credits

The student will be assigned to one of the four clinical areas. The student will be given the opportunity to demonstrate: 1) the ability to apply knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) the ability to integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) an attitude of cooperation and concern in interpersonal relationships with patients and health care workers; and 4) an appreciation of the ethical foundations of the clinical laboratory sciences profession. This preceptorship will be offered on an accelerated basis, with the student in the preceptorship at the peak hours. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (72 clinical hours per enrollment period). *Prerequisites: Must have successfully completed the related didactic courses, have a CLT degree and approval by the*

departmental chairman. Note: To achieve a passing grade, the student's performance must be at entry level (70 percent) or greater in the designated subunits of that clinical area.

CLLS 4309 Seminar in Clinical Laboratory Sciences 3 Credits

The student will be given the opportunity to develop a broader application of the clinical laboratory scientist's role as a health professional in a variety of learning experiences, including seminars, lectures, practices quizzes, and discussions in the seven knowledge areas (hematology, blood bank, clinical chemistry, microbiology, laboratory operations, immunology, and urinalysis/body fluids). Included in this course are review and practice examinations as well as a comprehensive battery of examinations encompassing seven knowledge areas. The student's performance in the seminar, as well as on the battery of examinations, will be evaluated on a Pass/Fail basis. Each knowledge area on the comprehensive battery of examinations must be passed with a grade of "C" or above to be classified as passing on a Pass/Fail basis. (45 hours of seminar, conference, and discussion during the enrollment period.) *Prerequisites: Successful completion of all required courses or co-enrollment in outstanding courses.*

CLLS 4310 Clinical Chemistry II 3 Credits

The student will be given the opportunity to demonstrate the ability to: 1) discuss the interrelated human metabolic functions in both normal and disease states; 2) describe the principles and significance of clinical chemistry laboratory procedures employed in patient evaluation; 3) utilize quality control techniques in evaluating the validity and reliability of laboratory data; 4) describe the relationship of accuracy and precision in laboratory work; and 5) discuss the principles of mathematical calculations and laboratory instruments as applied to electrolytes and acid/base physiology; therapeutic drug monitoring; toxicology; hypothalamus pituitary, adrenal cortical and medullary, reproductive and thyroid endocrinology; parathyroid glands and calcium/phosphate metabolism; gastrointestinal and pancreatic function; nutritional assessment; and advanced methods evaluation. (45 lab hours per enrollment period). *Prerequisites: CLLS 3514 Clinical Chemistry I or its equivalent.*

CLLS 4311 Case Studies in Clinical Laboratory Sciences 3 Credits

The student will be given the opportunity to demonstrate the ability to: 1) evaluate patient histories and laboratory test results; 2) recognize and correlate patterns of test results with specific disease processes; and 3) identify confirmatory testing procedures and corresponding results. (45 conference, discussion, or seminar hours per enrollment period). *Prerequisites: Senior Status.*

CLLS 4313 Clinical Laboratory Science Management Skills 3 Credits

The students will be given the opportunity to: 1) analyze the external and internal health care issues that affect the practice of Clinical Laboratory Sciences; 2) integrate the regulatory agencies' regulations with the ethical management of the Clinical Laboratory; 3) given a management problem, formulate an appropriate protocol for dealing with the problem; 4) predict the fiscal elements in the health care system that will influence planning and productivity in a laboratory; 5) analyze the role of laboratory test management in the functioning and development of a Clinical Laboratory. (45 lecture hours per enrollment). *Prerequisites: None.*

CLLS 4325 Advanced Microbiology/Mycology 3 Credits

The student will be given the opportunity to demonstrate: 1) skills in advanced techniques for detection, isolation, identification, and determination of susceptibility of pathogenic, high-virulence, and fastidious organisms; 2) skills in analysis and problem-solving related to techniques necessary to assure the accuracy and validity of test results; 3) ability to determine possible

pathogens and normal flora according to the body site from which the specimen was obtained; 4) identify clinically significant fungi and yeasts; and 5) perform procedures and techniques used for their identification. (30 lecture and 45 lab hours per enrollment period). *Prerequisites: General Microbiology (4 hours) and CLLS 3405 Intermediate Pathogenic Microbiology or its equivalent.*

CLLS 4327 Method Development and Assessment 1 3 Credits

The student will be given the opportunity to: 1)justify the advantages of peer reviewed articles vs. articles on non-library search engines; 2) conduct a literature search using Ovid, PubMed, or equivalent; 3) determine the appropriate components/sections of a peer reviewed journal article, 4) propose the purpose of each section of a peer reviewed article; 5) differentiate among the different types of data which may be collected; 6) propose the purposes of the processes/steps involved in method evaluation. (45 lecture hours per enrollment). *Prerequisites: None.*

CLLS 4328 Method Development and Assessment II 3 Credits

The student will be given the opportunity to: 1) describe the main types of errors in a method, the factors that contribute to these errors and how total error of a procedure is calculated; 2) evaluate the acceptability of a procedure based on performance characteristics and patient comparison studies; and 3) describe the regulations for method validation in providing optimal patient care. (45 hours lecture per enrollment). *Prerequisites: None.*

CLLS 4415 Immunology/Immunohematology 4 Credits

The student will be given the opportunity to demonstrate: 1) understanding of the role of humoral and cellular immunity as a defense against disease when the systems function normally or abnormally; 2) the ability to perform, interpret and evaluate results and resolve problems for more advanced immunochemical and immunoassay techniques; 3) the ability to perform, interpret and evaluate results and resolve problems for more advanced immunohematology procedures including but not limited to donor incompatibility, transfusion reactions, hemolytic anemias, and multiple antibodies. (36 lecture and 80 lab hours per enrollment period). *Prerequisites: CLLS 3310 Serology and Blood Bank or equivalent courses.*

CLLS 4417 Coagulation/Hematology II 4 Credits

The student will be given the opportunity to demonstrate the ability to: 1) describe and/or perform advanced procedures and techniques, accurately interpreting the results and associated calculations; 2) select and perform appropriate methods to analyze the accuracy and validity of a given hematologic/coagulation procedure; 3) evaluate test results using quality assurance parameters, determine potential sources of error, and select appropriate corrective actions; 4) recognize and correlate abnormal test results with specific hematologic/coagulation disorders; 5) based on preliminary findings, propose appropriate follow-up studies needed to assist in determining the appropriate diagnosis. This course builds on the knowledge of basic hematology and coagulation principles and procedures to achieve the advanced knowledge and skill base required for the practicing clinical laboratory scientist. (38 lecture and 68 lab hours per enrollment period). *Prerequisites: CLLS 3417 Hematology/Coagulation I or equivalent course.*

CLLS 5093 Independent Investigative Studies 1-3 Credits

The student will be given the opportunity to: 1) construct, under supervision, investigations into topics specific to his or her professional discipline or that deals with topics or problems relating to health care and allied health in general; 2) conduct under supervision, the investigation; and 3) assemble a report on the findings of his/her investigation. (arranged lab and lecture hours per enrollment period). *Prerequisites: None. Note: This course may be repeated for credit when content varies.*

CLLS 5095 Seminar in Transfusion Medicine II

The student will be given the opportunity to: 1) Integrate theories, concepts, processes and procedures in Transfusion Medicine to resolve complex management, serological, and clinical transfusion problems, covering topics from CLLS 5260 (Blood Bank Laboratory Operations) and CLLS 5261 (Human Blood Group Systems I, CLLS 5262 (Human Blood Group Systems II), CLLS 5263 (Advanced Immunohematology I), CLLS 5264 (Advanced Immunohematology II) and CLLS 5360 (Advanced Transfusion Medicine Principles); 2) Recommend appropriate transfusion management of patients with hematologic abnormalities, complete serological problems and transplant related illnesses; 3) evaluate initial patient laboratory testing data, select and interpret appropriate procedures to resolve complex serological patient testing problems. 15 lecture hours per enrollment period) *Prerequisite: CLLS 5164 or permission of instructor.*

CLLS 5160 Intro Research in Transfusion Medicine 1 Credit

The student will be given the opportunity to: 1) demonstrate the role of research in the clinical laboratory, including research methods, preparation of the hypothesis, research proposal, and review of literature; 2) conduct, under supervision, a literature search of a specified topic; 3) Prepare and introduction and literature review on a selected transfusion medicine topic. Students in the TRM-MS track, will continue with CLLS 5265 to complete their research proposal and IRB protocol. 15 lecture hours per enrollment period) *Prerequisite: None.*

CLLS 5164 Seminar in Transfusion Medicine I

The student will be given the opportunity to: 1) Integrate theories, concepts, processes and procedures in Transfusion Medicine to resolve complex management, serological, and clinical transfusion problems, covering topics from CLLS 5260 (Blood Bank Laboratory Operations) and CLLS 5261 (Human Blood Group Systems I, CLLS 5262 (Human Blood Group Systems II), CLLS 5263 (Advanced Immunohematology I), CLLS 5264 (Advanced Immunohematology II) and CLLS 5360 (Advanced Transfusion Medicine Principles); 2) Recommend appropriate transfusion management of patients with hematologic abnormalities, complete serological problems and transplant related illnesses; 3) evaluate initial patient laboratory testing data, select and interpret appropriate procedures to resolve complex serological patient testing problems. 15 lecture hours per enrollment period). Prerequisite: None.including introduction, hypothesis and methods sections and forms for data collection to be completed during CLLS 5265. (15 lecture hours per enrollment period) *Prerequisite: None.*

CLLS 5161 Applied Immunohematology Practicum I 1 Credit

The student will have the opportunity to demonstrate: 1) the ability to integrate previous knowledge and skills with advanced methodologies in transfusion medicine laboratory situations; 2) the ability to apply knowledge, attitudes and skills to specific situations in transfusion medicine, including but not limited to transfusion service, immunohematology reference laboratory, quality assurance, donor recruitment, blood donor collection, blood component preparation, donor testing, HLA testing, molecular analysis of human blood groups; coagulation testing; management principles and the role of the Medical Director in transfusion medicine. Successful completion of required checklists and projects results in a grade of Pass. (40 clinical hours per enrollment period). *Prerequisite: None.*

CLLS 5162 Applied Immunohematology Practicum II 1 Credit

The student will have the opportunity to demonstrate: 1) the ability to integrate previous knowledge and skills with advanced methodologies in transfusion medicine laboratory situations; 2) the ability to apply knowledge, attitudes and skills to specific situations in transfusion medicine, including but not limited to transfusion service, immunohematology reference laboratory, quality

assurance, donor recruitment, blood donor collection, blood component preparation, donor testing, HLA testing, molecular analysis of human blood groups; coagulation testing; management principles and the role of the Medical Director in transfusion medicine. Successful completion of required checklists and projects results in a grade of Pass. (40 clinical hours per enrollment period). *Prerequisite: CLLS 5161 Applied Immunohematology Practicum I.*

CLLS 5163 Applied Immunohematology Practicum II 1 Credit

The student will have the opportunity to demonstrate: 1) the ability to integrate previous knowledge and skills with advanced methodologies in transfusion medicine laboratory situations;

2) the ability to apply knowledge, attitudes and skills to specific situations in transfusion medicine, including but not limited to transfusion service, immunohematology reference laboratory, quality assurance, donor recruitment, blood donor collection, blood component preparation, donor testing, HLA testing, molecular analysis of human blood groups; coagulation testing; management principles and the role of the Medical Director in transfusion medicine. Successful completion of required checklists and projects results in a grade of Pass. (40 clinical hours per enrollment period). *Prerequisite: CLLS 5162 Applied Immunohematology Practicum II.*

CLLS 5200 Laboratory Techniques 2 Credits

The student will have the opportunity to: 1) demonstrate correctly techniques and procedures for collecting blood samples; 2) perform successful blood collection by venipuncture and fingerstick; 3) implement appropriate techniques for handling and storing of various types of samples; 4) explain and comply with general laboratory safety practices; 5) describe and perform basic microscopy, spectrometry, pipetting, and calibration techniques; 6) discuss the role of the clinical laboratory scientist within the divisions of the clinical laboratory; and 7) integrate the relationship of clinical laboratory scientists within divisions of the clinical laboratory and health care using graduate level case studies. (12 lecture hours, 20 lab hours, and 45 clinical hours per enrollment period). *Prerequisites: None.*

CLLS 5205 Intermediate Pathogenic Microbiology 2 Credits

The student will be given the opportunity to demonstrate: 1) knowledge of medically relevant microorganisms through their cellular and colonial characteristics and biochemical reactions; 2) an understanding of the pathogenesis and pathology of infectious diseases of humans; 3) the correlation of laboratory findings with the patient's clinical signs and symptoms using graduate-level case studies; and 4) basic concepts of techniques necessary to ensure the accuracy and validity of test results. (30 lecture hours per enrollment period). *Prerequisites: 4 credits in Microbiology Note: For non-CLS majors only.*

CLLS 5260 Blood Bank Laboratory Operations 2 Credits

The student will be given the opportunity to demonstrate: 1) principles of laboratory management applicable to transfusion services, immunohematology reference laboratories, blood component procurement, testing and product manufacturing; 2) knowledge of selection, use and management of laboratory information systems in the blood center and transfusion service; 3) application of Quality Management Principles, including FDA regulations and AABB Standards; 4) understanding of patient blood management strategies and functions of the transfusion review committee; 5) principles and practice of education in transfusion medicine; 6) validation of procedures, methods and instrumentation through use of statistical tools. (30 lecture hours per enrollment period). *Prerequisite: None.*

CLLS 5261 Human Blood Group Systems I **2 Credits**

The student will be given the opportunity to demonstrate: 1) understanding of immunological principles in development of alloantibodies and autoantibodies to red cell, white cell and platelet antigens; 2) understanding of Mendelian genetic inheritance principles and application to human blood groups; 3) understanding of genetics, biochemistry and molecular basis for human blood groups, including ABO, Lewis, Secretor, P and Ii; 4) importance of blood group antigens and antibodies in transfusion therapy. (30 lecture hours per enrollment period). *Prerequisite: None.*

CLLS 5262 Human Blood Group Systems II **2 Credits**

Continuation of CLLS 5261. The student will be given the opportunity to demonstrate:

1) understanding of genetics, biochemistry and molecular basis for the human blood groups, including Rh, MNSs, Kell, Kidd, Duffy, Lutheran, Knops and others; 2) differentiation of rare blood groups consisting of high and low incidence antigens; 3)relationships between specific blood group systems; 4)importance of blood group antigens and antibodies in transfusion therapy; 5) uuse of special techniques to resolve complex serological problems in transfusion medicine. (30 lecture hours per enrollment period). *Prerequisite: CLLS 5261 Human Blood Group Systems I.*

CLLS 5263 Applied Immunohematology I **2 Credits**

The student will be given the opportunity to demonstrate: 1) understanding of importance of pre-transfusion testing strategies and processes; 2) use of automated testing process in the blood center and transfusion service lab; 3) procurement of rare blood products for special patient situations through the American Rare Donor Program; 4) principles of intraoperative blood salvage in select patient populations; 5) Knowledge of blood component therapy in various clinical situations and disease states; 6) aspects of blood administration and management of adverse effects of blood transfusion; 7) application of patient blood management strategies. (30 lecture hours per enrollment period). *Prerequisite: None.*

CLLS 5264 Applied Immunohematology II **2 Credits**

Continuation of CLLS 5263. The student will be given the opportunity to demonstrate: 1) knowledge of blood donor recruitment, blood product collection, processing and testing following all applicable regulations; 2) application of quality control criteria for blood components; 3) understanding of transfusion-transmitted diseases, including currently recognized diseases and potential threats to the blood supply; 4) principles, methods and requirements for transfusion-transmitted disease testing; 5) application of "look back" procedures, donor lot release procedures and quality assurance processes applied to the collection, preparation and distribution of blood components. (30 lecture hours per enrollment period). *Prerequisite: CLLS 5263 Applied Immunohematology I.*

CLLS 5265 Advanced Research in Transfusion Medicine **2 Credits**

The student will be given the opportunity to: 1) demonstrate skills in application of computer programs, spread sheets, and databases; 2) generate a transfusion in medicine research proposal's introduction, hypothesis, and methods sections; 3) generate an IRB as needed to obtain approval for research project; 4) develop technical skills necessary to complete the research; and 5) generate appropriate forms for collection of all data necessary for documentation of research results. (15 lecture hours, and 45 conference/ seminar hours per enrollment period). *Prerequisite: None.*

CLLS 5307 Clinical Laboratory Science Seminar 3 Credit

The student will be given the opportunity to develop a broader understanding of the clinical laboratory scientist's role as a health professional in a variety of learning experiences, including seminars, lectures, practice quizzes, and discussions. Included in this course are review and practice examinations as well as a comprehensive battery of examinations encompassing seven knowledge areas. The student's performance in the seminar, as well as on the battery of examinations, will be evaluated on a Pass/Fail basis. The comprehensive battery of examinations must be passed with a grade of "B" or above to be classified as passing on a Pass/Fail basis. (45 hours seminar and discussions per enrollment period). *Prerequisites: Successful completion of all required courses or co-enrollment in outstanding courses.*

CLLS 5310 Serology and Blood Bank 3 Credits

The student will be given the opportunity to: 1) apply the theoretical concepts of immunological techniques to the evaluation of specific methodologies; 2) integrate the theoretical concepts of immunological techniques to evaluate the results obtained when testing patient samples and determine whether these results can be safely reported; 3) organize the theoretical concepts of immunological techniques to determine what steps need to be taken in resolving technical problems with a test; 4) propose what the presence of a specific antigen or antibody indicates about the patient's current status related to a specific disease; 5) integrate knowledge of the antigen and antibody characteristics of blood group systems in procedures to detect and identify them; 6) utilize the principles of donor selection, compatibility testing, and component preparation to select appropriate donors, determine donor/recipient compatibility, and appropriately prepare and handle components; 7) correlate laboratory findings with the patient's clinical signs and symptoms using graduate-level case studies; and 8) construct immunohematologic techniques and determine whether the results can be reported. (30 lecture hours and 45 lab hours per enrollment period). *Prerequisites: None.*

CLLS 5311 Clinical Correlation 3 Credits

The student will be given the opportunity to: 1) evaluate patient histories and laboratory test results using graduate-level case studies; 2) recognize and correlate patterns of test results with specific disease processes; 3)prioritize confirmatory testing procedures and corresponding results; and 4) assess potential legal and ethical problems presented in case. (30 lecture, 15 conference, discussion, or seminar hours per enrollment period). *Prerequisites: Baccalaureate in CLS/MT or 49 hours in CLLS courses.*

CLLS 5312 Evidence Based Lab Medicine 3 Credits

The student will be given the opportunity to 1) discuss the growing need for laboratory evidence, 2) describe the methods and procedures developed in clinical medicine that are used to establish strategies that measure outcomes for diagnosis and disease management and 3) utilize laboratory protocols to illustrate evidence-based laboratory medicine concepts. *Prerequisite: admission into Clinical Laboratory Sciences graduate program.*

CLLS 5314 Advanced Clinical Chemistry/Toxicology 3 Credits

This course is designed to familiarize students correlating clinical chemistry and toxicology laboratory results to patient outcomes, associating sensitivity and specificity with laboratory methodologies, and clinician test orders. The student will be given the opportunity to demonstrate an investigatory and analytical thinking approach to clinical situations, including: 1) Development of reasonable and complete differential diagnoses for Chemistry/Toxicology cases based on the

available clinical information, laboratory tests, and current published information; 2) Discussion of pathophysiology of various diseases, drug metabolites, and metabolic disorders in the light of discussion of Chemistry/Toxicology assays performed; 3)Performing literature search and review to find relevant scientific references to aid in the workup of Chemistry/ Toxicology cases (computer-based searches). Obtaining information about their patient population and computer searches of selected diseases. *Prerequisite: Admission into Graduate program.*

CLLS 5319 Biostatistics 3 Credits

The student will be given the opportunity to: 1)select and utilize the appropriate techniques for determining basic probability, sensitivity and specificity, Bayes Rule, population measures, Gaussian distributions, point estimation, confidence intervals, classical and practical hypothesis testing, simple analysis of variance with mean separation tests, nonparametric procedures for one- and two-way classifications, least squares regression and correlation, including lack of fit tests, simple categorical data analysis including goodness of fit, and homogeneity of proportions; 2)appropriately assess the findings of the tests utilized above; and 3) assess, based on the data, the statistical significance of the assay to which the testing was applied. (60 lecture hours). *Prerequisites: None.*

CLLS 5320 Laboratory Management 3 Credits

The student will be given the opportunity to: 1) categorize the principles, practices, and applications of laboratory utilization, critical pathways, and clinical decision making using graduate-level case studies; 2) analyze the application of laws, regulations, and standards in laboratory practice; 3) apply the principles and applications of budgeting and marketing laboratory services; 4) describe reimbursement and payment principles, including CPT (Current Procedural Terminology) and ICD9 (International Classification of Diseases, 9th edition) coding; 5) formulate the evaluation and implementation of laboratory information systems; and 6) analyze the role of a clinical laboratory scientist as a technologist and/or supervisor in gaining initial accreditation and maintaining accreditation of a clinical laboratory. Students will work with clinical laboratory supervisors. (30 lecture hours and 60 clinical lab hours per enrollment period). *Prerequisites: None.*

CLLS 5325 Advanced Microbiology/Infectious Disease 3 Credits

This course is designed to familiarize students with the fundamentals of etiology, pathogenesis, diagnosis and prevention of infectious disease. Initially a brief introduction to microbiology concerning microbial physiology and genetics will be followed by host-parasite interrelationships for specific groups of diseaseproducing agents and appropriate therapeutic agents. Immunologic disorders, as well as the application of immunological principles to diagnoses of diseases, are stressed The student will be given the opportunity to: 1) Develop the laboratory diagnostic and therapeutic interventions necessary for the diagnosis and management of infectious disease; 2) Discuss preventive principles of disease control, prevention of nosocomial infections, and immunization programs: 3) Review the pertinent literature (i.e., textbooks, specific current clinical journal articles and existing electronic databases) regarding specific disease states; 4) Evaluate the pathophysiology, natural history, diagnosis and clinical management of the common or important clinical infectious disease syndromes; 5) Explain the principles of antimicrobial therapy using the functional structure and biophysiology relating to the mechanism of action of antibiotics and antimicrobial agents used in clinical medicine; 6) Utilize various aspects of pharmacokinetics, pharmacodynamics and costs of commonly used anti-bacteria. *Prerequisite: admission into Clinical Laboratory Sciences graduate program.*

CLLS 5327 Laboratory Validation Studies 3 Credits

The student will be given the opportunity to demonstrate the ability to: 1) organize method comparison; 2) evaluate linearity studies; 3) assess recovery studies, precision and accuracy; 4) choose and evaluate studies to determine analytical sensitivity and specificity; 5) analyze predictive value of findings; and 6) formulate the reference range validation using parametric and nonparametric statistics. (45 hours of lecture). *Prerequisites: CLLS 5506 Clinical Chemistry I or Baccalaureate in CLS/MT.*

CLLS 5328 Professional Education Methods 3 Credits

This course will be given the opportunity to demonstrate application in the presentation of health care education and in-service of: 1) methods to access and analyze the health care professional's needs; 2) construction of learner- and content-appropriate objectives; 3) evaluation techniques appropriate to the course material presented; 4) construct, under supervision, lesson unit; and 5) present in the appropriate course the lesson unit for instruction of clinical laboratory students. (30 lecture hours and 15 conference/seminar hours per enrollment period.). *Prerequisites: None.*

CLLS 5329 Clinical Laboratory Science Research 3 Credits

The student will be given the opportunity to: 1) demonstrate skills in application of computer programs, spread sheets, and databases; 2) generate a research proposal's introduction, hypothesis, and methods sections; 3) generate an IRB as needed to obtain approval for research project; 4) develop technical skills necessary to complete the research; and 5) generate appropriate forms for collection of all data necessary for documentation of research results. (15 lecture hours, and 45 conference/seminar hours per period). *Prerequisites: None.*

CLLS 5330 Clinical Investigative Studies 3 Credits

The student will be given the opportunity to: 1) integrate skills in application of computer programs, spreadsheets, and databases in collection and analysis of research project results; 2) conduct a pilot study; 3) complete the data collection of a professionally related research proposal under supervision. (15 hours conference and 90 hour laboratory studies per enrollment period). *Prerequisites: CLLS 5329 Research in CLS. Note: The course may be repeated for credit when collecting additional data, with approval of Departmental Chairman.*

CLLS 5331 Urinalysis, Body Fluids and Parasitology 3 Credits

The student will be given the opportunity to demonstrate: 1) correlation of the physiological conditions under which normal and abnormal urine components are formed; 2) the physical, chemical, and microscopic properties of urine and body fluids in both normal and pathologic conditions; 3) selection and performance of appropriate techniques for the detection of human parasites; 4) identification of clinically significant human parasites and associate them with the disease process elicited; and 5) the correlation of laboratory findings with the patient's clinical signs and symptoms using graduate-level case studies. (30 lecture hours and 45 lab hours per enrollment period). *Prerequisites: None.*

CLLS 5333 Master's Thesis 3 Credits

The student will be given the opportunity to complete a rigorous thesis that 1) constructs a focused investigation of a clinical laboratory science problem in real-world setting; 2) applies problem solving methodologies for development and execution of solutions; 3) investigates and applies theory through practical implementation of a project; and 4) evaluates and reports this

research project in a clear, professional manner using the guidelines set forth in the course syllabus. (15 hours conference, 90 hours laboratory). *Prerequisites: CLLS 5330 Clinical Investigative Studies.*

CLLS 5335 Clinical Practice I **3 Credits**

This course is part of a series of directed clinical practice that include laboratory procedures and methods of evaluating and monitoring organ function, disease presence, progression, and therapy; instrumentation, quality assurance practices; and safety. The student will be assigned to a different clinical area for each course, in microbiology, hematology, clinical chemistry, or immunohematology. The student will be given the opportunity to: 1) integrate knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) generate cooperation and concern in interpersonal relationships with patients and health care workers; and 4) implement the ethical foundations of the clinical laboratory sciences profession. The student will be expected to work-up and present a case study to laboratory personnel using knowledge gained in their clinical practice. This clinical practice will be offered on an accelerated basis, with the student in the clinical practice at the peak hours. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (120 clinical hours per enrollment period). *Prerequisites: None.*

CLLS 5336 Clinical Practice II **3 Credits**

This course is part of a series of directed clinical practice that include laboratory procedures and methods of evaluating and monitoring organ function, disease presence, progression, and therapy; instrumentation, quality assurance practices; and safety. The student will be assigned to a different clinical area for each course, in microbiology, hematology, clinical chemistry, or immunohematology. The student will be given the opportunity to: 1) integrate knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) build cooperation and concern in interpersonal relationships with patients and health care workers; and 4) implement the ethical foundations of the clinical laboratory sciences profession. The student will be expected to work-up and present a case study to laboratory personnel using knowledge gained in their clinical practice. This clinical practice will be offered on an accelerated basis, with the student in the clinical practice at the peak hours. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (120 clinical hours per enrollment period). *Prerequisites: CLLS 5335 Clinical Practice I.*

CLLS 5337 Clinical Practice III **3 Credits**

This course is part of a series of directed clinical practice that include laboratory procedures and methods of evaluating and monitoring organ function, disease presence, progression, and therapy; instrumentation, quality assurance practices; and safety. The student will be assigned to a different clinical area for each course, in microbiology, hematology, clinical chemistry, or immunohematology. The student will be given the opportunity to: 1) integrate knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) build cooperation and concern in interpersonal relationships with patients and health care workers; and 4) implement the ethical foundations of the clinical laboratory sciences profession. The student will be expected to work-up and present a case study to laboratory personnel using knowledge gained in their clinical practice. This clinical practice will be offered on an accelerated basis, with the student in the clinical practice at the peak hours. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (120 clinical hours per enrollment period). *Prerequisites: CLLS 5336 Clinical Practice II.*

CLLS 5338 Clinical Practice IV **3 Credits**

This course is part of a series of directed clinical practice that include laboratory procedures and methods of evaluating and monitoring organ function, disease presence, progression, and therapy; instrumentation, quality assurance practices; and safety. The student will be assigned to a different clinical area for each course, in microbiology, hematology, clinical chemistry, or immunohematology. The student will be given the opportunity to: 1) integrate knowledge, attitudes, and skills to clinical laboratory practices and procedures; 2) integrate previous knowledge and skills with more sophisticated instrumentation and advanced methodology; 3) build cooperation and concern in interpersonal relationships with patients and health care workers; and 4) implement the ethical foundations of the clinical laboratory sciences profession. The student will be expected to work-up and present a case study to laboratory personnel using knowledge gained in their clinical practice. This clinical practice will be offered on an accelerated basis, with the student in the clinical practice at the peak hours. The student's performance in the clinical setting, as well as the examinations, will be evaluated on a Pass/Fail basis. (120 clinical hours per enrollment period). *Prerequisites: CLLS 5337 Clinical Practice III.*

CLLS 5339 Clinical Management Preceptorship **3 Credits**

This course is designed to give students experience in performing work in a management area of the clinical laboratory including but not limited to advanced management, rural, commercial, and tertiary care laboratories. It will prepare graduates for pursuing careers in management. The student will be given the opportunity to: 1) compare and contrast the managerial techniques required in management of clinical facilities; 2) assess advanced techniques unique to the type of facility involved; 3) demonstrate more extensive expertise and knowledge base in an area of special interest to the student; and 4) integrate techniques that reflect the standards of practice in the management of clinical laboratories. (120 clinical hours). *Prerequisites: Completion of CLLS 5320: Laboratory Management or approval of department chair. Note: This course may be repeated for credit when content varies.*

CLLS 5340 Evidence-Based Specialty Preceptorship **3 Credits**

The student will be given the opportunity to: 1) categorize the major facets of evidence based laboratory practice; 2) analyze the outcome measurements in laboratory medicine; 3) formulate methods and procedures of determining the outcome measures in laboratory medicine and diagnosis & disease; 4) construct strategies for measuring the effectiveness of laboratory medicine in determining diagnosis and treatment of disease; 5) use laboratory data, under supervision, in the assessment of health and disease; and 6) support patient centered managed care and discuss laboratory testing with clinicians. (15 hours of lecture and 80 hours of clinical rotation). *Prerequisites: None.*

CLLS 5341 Topics in Global Health **3 Credits**

The student will be given the opportunity to: 1) analyze the critical issues in understanding global health challenges in contemporary society with inter-professional learning environment; 2) breakdown the public health issues involved in medically underserved populations; 3) apply the basic concepts in epidemiology; and integrate culturally appropriate health care in clinical practice. (15 hours lecture, 15 hours seminar/discussion board and 15 hours field work or alternate assignment). *Prerequisites: None . Note: This course may be repeated for credit when content varies.*

CLLS 5350 Hematopathology **3 Credits**

This course covers hematological abnormalities and their relationship to blood disorders. The student will receive instruction regarding clinical laboratory instrumentation and techniques, such as flow Cytometry and genetic analysis, used to diagnose and monitor hematological conditions. *Prerequisite admission into Clinical Laboratory Science graduate program.*

CLLS 5360 Advanced Transfusion Medicine Principles **3 Credits**

The student will be given the opportunity to demonstrate: 1) understanding of blood circulation and normal cells of the circulatory system; 2) knowledge of hemoglobin physiology and disorders of abnormal hemoglobin production; 3) understanding of transfusion needs of patients with red cell, white cell or platelet disorders and use of human progenitor cells in these patients; 4) knowledge of tests to assess coagulation status and treatment of coagulation disorders; 5) performance of tests to assist in diagnosis of hemolytic anemias and methods to provide blood components for transfusion of these patients; 6) knowledge of diagnosis and treatment of hemolytic disease of the fetus and newborn; 7) knowledge of immunodeficiency disorders and treatment modalities; 8) understanding of platelet and histocompatibility antigens in transfusion and transplantation; 9) knowledge of the occurrence and significance of Graft v. Host Disease in immunosuppressed patients. (45 lecture hours per enrollment period). *Prerequisites: None.*

CLLS 5405 Intermediate Pathogenic Microbiology **4 Credits**

The student will be given the opportunity to: 1) identify medically relevant microorganisms through their cellular and colonial characteristics as well as their basic biochemical reactions; 2) correlate the pathogenesis and pathology of infectious diseases in humans; 3) correlate laboratory findings with the patient's clinical signs and symptoms using graduate-level case studies; and 4) select and perform appropriate methods for detection, isolation, and identification of microorganisms. (30 lecture hours and 90 lab hours per enrollment period). *Prerequisites: None.*

CLLS 5406 Clinical Chemistry I **4 Credits**

The student will be given the opportunity to demonstrate: 1) an understanding of the interrelationship of human metabolic functions in both normal and disease states; 2) the correlation of chemistry laboratory test results to normal and abnormal human physiology; 3) explain the principles of analytical procedures and pertinent instrumentation involved in basic laboratory procedures; and 4) utilize quality-control techniques in evaluating laboratory data. (60 lecture hours per enrollment period). *Prerequisites: Matriculation in Physician Assistant Studies Program or consent of instructor. Note: For non-CLS majors only.*

CLLS 5414 Biochemistry **4 Credits**

The student will be given the opportunity to: 1) distinguish the basic organic concepts utilized in biochemistry; 2) integrate the chemistry and metabolism of carbohydrates, proteins, lipids, and nucleic acids; 3) predict the interactions of enzymes, hormones, and vitamins as an integral part of the metabolic pathways; and 4) discuss the metabolic errors in disease states using graduate level case studies.(60 lecture hours per enrollment period). *Prerequisites: None.*

CLLS 5415 Immunology and Immunohematology **4 Credits**

The student will be given the opportunity to: 1) integrate the role of both humoral and cellular immunity in defense against disease as well as in situations where the immune mechanisms are functioning abnormally; 2) perform, evaluate the results of, and troubleshoot the more advanced immunochemical and immunoassay techniques using graduate-level case studies; and 3) perform, evaluate the results of, and interpret immunohematology techniques in situations including but

not limited to incompatibility, transfusion reactions, hemolytic anemias, and multiple antibodies using graduate-level case studies. (30 lecture hours and 90 lab hours per enrollment period). *Prerequisites: CLLS 5310 Serology and Blood Bank.*

CLLS 5417 Hematology and Coagulation I 4 Credits

The student will be given the opportunity to: 1) successful performance of both venipuncture and capillary puncture; 2) correlate errors or problems of the venipuncture and capillary puncture with erroneous hematologic/coagulation test results; 3) recognize and correlate significant features and processes related to formation, function, and morphology of the blood's normal cellular elements; 4) recognize and correlate the basic components of coagulation/hemostasis, including their source, basic structure, and function; 5) accurately perform basic hematologic/coagulation test procedures and calculations; 6) correlate laboratory findings with the patient's clinical signs and symptoms using graduate-level case studies; and 7) utilize routine quality assurance guides to identify abnormal hematologic results and correlate these with potential causes or sources of error. (38 lecture hours and 68 lab hours per enrollment period). *Prerequisites: None.*

CLLS 5506 Clinical Chemistry I 5 Credits

The student will be given the opportunity to: 1) distinguish the interrelationship of human metabolic functions in both normal and disease states; 2) correlate chemistry laboratory test results to normal and abnormal human physiology using graduate level case studies; 3) integrate the principles of analytical procedures and pertinent instrumentation involved in basic laboratory procedures; 4) perform manual and automated procedures; and 5) utilize quality-control techniques in evaluating laboratory data. (60 lecture hours and 45 laboratory hours per enrollment period). *Prerequisites: CLLS 5414 Biochemistry or equivalent.*

CLLS 6130 DCLS Seminar 1 1 Credits

The student will be given the opportunity to learn and discuss a variety of topics including professionalism, interprofessional communications, and current issues in the field of clinical laboratory science. In addition, students will develop the skills necessary to provide formal and/or informal continuing educational experiences to other health care professionals, interpret and advocate the DCLS role to other health care providers and to the public. Students will also learn how to utilize information technology to manage health information, access online medical information, and support personal continuing education. (15 seminar hours). *Prerequisite: admission into Clinical Laboratory Sciences graduate program.*

CLLS 6131 DCLS Seminar 2 1 Credits

The student will be given the opportunity to learn and discuss a variety of topics and issues including health informatics, healthcare services delivery and current issues in the field of clinical laboratory science. In addition, students will provide tracking and statistical analysis of procedural outcomes to support evidence based practice and apply information technology to manage diagnostic management processes and serve as a knowledge resource in the design and development of laboratory services for the complex acute, critical, and chronically ill patients. (15 seminar hours). *Prerequisite*: admission into Clinical Laboratory Sciences graduate program.

CLLS 6301 Introduction to Health Assessment 3 Credits

The student will be given the opportunity to focus on patient care with emphasis on assessment of basic diagnostic medical procedures. Review and evaluation of pulmonary, radiographic and electrocardiogram studies. Perform physical exams, take medical histories, and

correlate findings. Normal findings in these areas will be emphasized. *Prerequisite admission into Clinical Laboratory Science graduate program.*

CLLS 6302 Evidence Based Practice 3 Credits

The student will be given the opportunity to critically analyze evidence-based laboratory practices, provide and discuss ways in which laboratory professionals can work with other professions to establish clinical guidelines for diagnosis and disease management. The course will emphasize the growing need for evidence-based practice and ways in which the methods and procedures developed in clinical medicine can be used to establish strategies for diagnosis and disease management. This course will allow the student to apply the concepts of evidence-based practice to outcome measurements through course materials, assignments and supervised practice in the use of laboratory data in the assessment of health and disease. (45 lecture hours). *Prerequisite*: *admission into Clinical Laboratory Sciences graduate program.*

CLLS 6305 Quality systems, patient safety and medical error 3 Credits

The student will be given the opportunity to apply concepts for patient safety initiatives, practical assessment tools for the management of errors and improving lab processes with patient safety goals in mind. (45 lecture hours). *Perequisite: admission into Clinical Laboratory Sciences graduate program.*

CLLS 6306 Diagnostic algorithms 3 Credits

The student will be given the opportunity to evaluate critical pathways of major diagnostic related groups in clinical patient management. Pathway analysis includes pathophysiology of disease processes and appropriateness/efficacy of diagnostic and therapeutic sequencing.1. Analyze existing algorithmic pathways for assigned disorders for laboratory content/accuracy in the pathophysiology of each assigned disorder. 2. List appropriate therapy at each stage of a pathway for a given disorder to include pharmacological therapy. 3. Describe pertinent physical examination findings at each pathway stage of an assigned disorder. 4. Diagram pertinent laboratory procedures appropriate for each stage of a critical pathway in a given disorder. 5. Create clinical algorithmic pathways for assigned disorders. (45 lecture hours). *Perequisite: admission into Clinical Laboratory Sciences graduate program.*

CLLS 6307 Molecular Diagnostics 3 Credits

The student will be given the opportunity to: 1) correlate molecular diagnostics concepts, including DNA replication, transcription, translation, DNA damage and repair, mutagenesis, and genetic exchange; 2) demonstrate skills in cloning, bacterial transformation, DNA isolation, identification, sequencing, mammalian tissue culture techniques, and protein expression and purification; 3) perform a number of clinically relevant procedures including isolation of human

chromosomal DNA and analysis of DNA, utilizing techniques such as nucleic acid transfer, hybridization, PCR analysis, and DNA fingerprinting; and 4) perform accurately all routine procedures utilized during the course, by completion of the unit in which they are presented, as well as describe laboratory-induced errors for each type of procedure. (30 lecture hours and 60 lab hours per enrollment period). *Prerequisites: CLLS 5414 Biochemistry.*

CLLS 6310 Clinical Chemistry II 3 Credits

The student will be given the opportunity to: 1) integrate human metabolic functions in both normal and disease states; 2) correlate the principles and significance of clinical chemistry laboratory procedures employed in patient evaluation; 3) utilize quality control techniques in

evaluating the validity and reliability of laboratory data; 4) integrate the relationship of accuracy and precision in laboratory work; 5) analyze the principles of mathematical calculations and laboratory instruments as applied to electrolytes and acid/base physiology; therapeutic drug monitoring; toxicology; hypothalamus pituitary, adrenal cortical and medullary, reproductive and thyroid endocrinology; parathyroid glands and calcium/phosphate metabolism; gastrointestinal and pancreatic function; nutritional assessment; and advanced methods evaluation; and 6) correlate laboratory findings with the patient's clinical signs and symptoms using graduate-level case studies. (45 lecture hours per enrollment period). *Prerequisites: CLLS 5514 Clinical Chemistry I.*

CLLS 6315 Clinical Immunology and Transfusion 3 Credits

Students will be given the opportunity to discuss and validate clinical and applied concepts in cellular, humoral, and molecular immunology. Emphasis is on techniques in clinical immunology as it relates to clinical applications, diagnostic and therapeutic testing of immune-mediated diseases in autoimmunity, pregnancy, anaphylaxis and allergy, immunotherapy and immunotoxicology, transplantation, cancer immunology and immunodeficiency. The course provides an in-depth study of the structure, biochemistry, and function of red blood cells, hemoglobin and blood group systems that serves as the foundation for enhancement of skills in the identification and resolution of complex antibody and compatibility testing problems and the provision of appropriate and safe blood components and products for transfusion. Therapeutic indications for transfusion, transfusion requirements in special situations, and the pathophysiology and investigation of adverse transfusion reactions are also examined. *Perequisite: admission into Clinical Laboratory Sciences graduate program.*

CLLS 6320 Introduction to Epidemiology 3 Credits

The student will be given the opportunity to cover topics of public health and newly emerging public health content areas. Students will explore the organization of the U.S. Public Health System and the role of the DCLS in the implementation and assessment of public health programs at the local regional, state, and local levels. (45 lecture hours). *Perequisite: admission into Clinical Laboratory Sciences graduate program.*

CLLS 6325 Advanced Microbiology/Mycology 3 Credits

The student will be given the opportunity to: 1) organize advanced techniques for detection, isolation, identification, and determination of susceptibility of pathogenic, high-virulence, and fastidious organisms; 2) demonstrate skills in analysis and problem-solving related to techniques necessary to assure the accuracy and validity of test results; 3) differentiate possible pathogens and normal flora according to the body site from which the specimen was obtained; 4) differentiate clinically significant fungi and yeasts; 5) perform procedures and techniques used for their identification; and 6) correlate laboratory findings with the patient's clinical signs and symptoms using graduate-level case studies. (30 lecture hours and 45 lab hours per enrollment period). *Prerequisites: CLLS 5405 Intermediate Pathogenic Microbiology.*

CLLS 6341 DCLS Clinical 1 3 Credits

The student will be given the opportunity to: 1) integrate knowledge, attitudes, and skills to clinical laboratory practices and diagnostic management teams; 2) integrate previous knowledge and skills with advanced methodology and the use of diagnostic algorithms; 3) build cooperation and concern in interpersonal relationships with patients, clinicians, and other health care workers; and 4) implement the ethical foundations of the clinical laboratory sciences profession. The student will be expected to work-up and present case studies to clinicians and laboratory personnel using knowledge gained in their clinical practice. (210 clinical hours) *Perequisite: admission into Clinical Laboratory Sciences graduate program.*

CLLS 6342 DCLS Clinical 2 **3 Credits**

The student will be given the opportunity to: 1) integrate knowledge, attitudes, and skills to clinical laboratory practices and diagnostic management teams; 2) integrate previous knowledge and skills with the use of established clinical guidelines and the use of diagnostic algorithms; 3) build educational relationships with clinicians, and other health care workers; The student will be expected to independently work-up and present case studies to clinicians and laboratory personnel using knowledge gained in their clinical practice. (210 clinical hours) *Perequisite successful completion of CLLS 6341 DCLS Clinical 1.*

CLLS 6343 DCLS Clinical 3 **3 Credits**

The student will be given the opportunity to: 1) integrate knowledge, attitudes, and skills to clinical laboratory practices and diagnostic management teams; 2) integrate previous knowledge and skills with the use of established clinical guidelines and the use of diagnostic algorithms; 3) build educational relationships with clinicians, and other health care workers; The student will be expected to independently lead a diagnostic management team conference, work-up and present case studies to clinicians and laboratory personnel using knowledge gained in their clinical practice. (210 clinical hours) *Prerequisite successful completion of CLLS 6342 DCLS Clinical 2.*

CLLS 6344 DCLS Clinical 4 **3 Credits**

The student will be given the opportunity to: 1) integrate knowledge, attitudes, and skills to clinical laboratory practices and diagnostic management teams; 2) integrate previous knowledge and skills with the use of established clinical guidelines and the use of diagnostic algorithms; 3) maintain educational relationships with clinicians, and other health care workers; The student will be expected to independently lead a diagnostic management team conference, work-up and present case studies to clinicians and laboratory personnel using knowledge gained in their clinical practice. (210 clinical hours). *Prerequisite successful completion of CLLS 6343 DCLS Clinical 3.*

CLLS 6352 Pharmacology **3 Credits**

The student will be given the opportunity to focus on the principles of pharmacology, mechanism of action, toxicology and drug distribution. Special emphasis will be placed on laboratory evaluation of drug regimens used in diagnosis and treatment. (45 lecture hours). *Prerequisite: admission into Clinical Laboratory Sciences graduate program.*

CLLS 6371 DCLS Project 1 **3 Credits**

The student will be given the opportunity to: 1) demonstrate skills in application of computer programs, spread sheets, and databases; 2) generate a research proposal's introduction, hypothesis, and methods sections; 3) generate an IRB as needed to obtain approval for research project; 4) develop technical skills necessary to complete the research; and 5) generate appropriate forms for collection of all data necessary for documentation of research results. *Prerequisite: admission into Clinical Laboratory Sciences graduate program.*

CLLS 6072 DCLS Project 2 **3 Credits**

The student will be given the opportunity to: 1) integrate skills in application of computer programs, spreadsheets, and databases in collection and analysis of research project results; 2) conduct a pilot study; 3) complete the data collection of a professionally related research proposal under supervision. (1 credit hr = 5 conference hours and 36 laboratory hours; 2 credit hr = 10 conference hours and 72 laboratory hours; 3 credit hr = 15 hours conference and 120 hour laboratory hours per enrollment period). *Prerequisite: CLLS 6371 DCLS Project 1.*

CLLS 6073 DCLS Project 3 **3 Credits**

The student will be given the opportunity to complete a rigorous project that 1) constructs a focused investigation of a clinical laboratory science problem in real-world setting, 2) applies problem solving methodologies for development and execution of solutions, 3) investigates and applies theory through practical implementation of a project, and 4) evaluates and reports this research project in a clear, professional manner using the guidelines set forth in the course syllabus. (1 credit hr = 5 conference hours and 36 laboratory hours; 2 credit hr = 10 conference hours and 72 laboratory hours; 3 credit hr = 15 hours conference and 120 hour laboratory hours per enrollment period). *Prerequisite: CLLS 6372 DCLS Project 2*

CLLS 6417 Coagulation and Hematology II **4 Credits**

The student will be given the opportunity to: 1) demonstrate skills in advanced procedures and techniques, accurately interpret the results and associated calculations; 2) select and perform appropriate methods to analyze the accuracy and validity of a given hematologic/coagulation procedure; 3) evaluate test results using quality assurance parameters, determine potential sources of error, and select appropriate corrective actions; 4) recognize and correlate abnormal test results with specific hematologic/coagulation disorders; 5) propose, based on preliminary findings, appropriate follow-up studies needed to assist in determining the appropriate diagnosis. (38 lecture hours and 68 lab hours per enrollment period). *Prerequisites: CLLS 5417 Hematology/ Coagulation I.*

MSHP 5301 Medical Ethics **3 Credits**

The student will be given the opportunity to: 1) describe ethics and values in a health care setting; 2) evaluate the values of ethical principles among health care professionals; 3) assess the process of resolution when presented with an ethical dilemma; 4) apply ethical standards related to mental health, experimentation on human subjects, patient consent, genetics, and rights to death, and; 5) integrate the knowledge of medical ethics into the health care practice. (45 lecture hours per enrollment period). *Prerequisites: None.*

MSHP 5302 Introduction to Scientific Writing **3 Credits**

The student will be given the opportunity to: 1) examine the scientific literature and peer reviewed journals; 2) analyze the history research and identify the proper steps involved in the research process; 3) apply appropriate use of writing skills in a scientific paper; and 4) prepare a paper suitable for publication in a peer reviewed journal. (45 independent study hours per enrollment period). *Prerequisites: None.*

MSHP 5303 Health Care Policy **3 Credits**

This course provides the student with the opportunity to: 1) examine intricacies of health policy development, implementation and how various health policies affect their profession and patients; 2) define the federal, state, and local government's role in the development of health policy; 3) evaluate the current Medicare/Medicaid systems and identify how these systems affect the care they provide; 4) examine health policy and how it may affect the care given to minorities and the uninsured; 5) evaluate the current health care policy issues affecting women's health care; 6) review a comprehensive analysis of a health care policy; and 7) differentiate the health care policy issues affecting public health in the United States. (45 independent study hours per enrollment period). P*rerequisites: None.*

Master of Sciences in Health Professions Program

Program Director and Associate Professor
Soham Al Snih, MD, PhD

Professor
Carolyn J. Utsey, PhD, PT

Associate Professor
Patricia Fingerhut, OTR, PhD
Steven Fisher, PT, PhD, GCS
José Rojas, PhD, RRT
Francis P. Ward, Jr., EdD, NSA, PA

Assistant Professor, Instruction
Bruce Adcock, Med, RRT-NPS
Muzna Khan, MS, RRT
Daneen Nastars, MS, BS, RRT
Leonce H. Thierry, MS, MT (ASCP) CHES

Instructor
Mary D. Daley, BSc, MSc, MD, BELS
Amanda W. Scarbrough, PhD, MHSA

THE MSHP PROGRAM

The MSHP program is a distant learning Master of Sciences degree with a total of 32-33 credit hours of coursework that includes 15 credit hours of core curriculum and 17-18 credit hours of advanced applied coursework. The program is self-paced, but is generally completed in three to five semesters. The program enables healthcare practitioners to obtain a rigorous graduate education that complements their previous training and provides for career advancement in their field. The MSHP is a degree for person with a bachelor's degreein arts or sciences.

For practitioners currently working in healthcare, the advanced degree offered throught the MSHP program will open opportunities for leadership as health care managers, or executives within their organizationsEach class is solely administered online and uses Blackboard (https://eclass.utmb.edu/) for coursework and assignments.

ESSENTIAL FUNCTIONS

It is the policy of the University of Texas Medical Branch (UTMB Health) at Galveston to comply with the Americans with Disabilities Act, Section 504 of the Rehabilitation Act of 1973, and state and local requirements regarding students and applicants with disabilities. Under these laws, no otherwise qualified and competitive individual with a disability shall be denied access to or participation in services, programs, and activities of UTMB Health-Galveston solely on the basis of the disability.

All individuals who apply for admissions to programs within the UTMB schools, including persons with disabilities, must be able to perform essential functions either with or without accommodations. Essential functions are the basic activities that a student must be able to complete. Any student applicant who has met the necessary prerequisites and who can perform the

essential functions of the program in question, either with or without reasonable accommodations, will be considered for admission. Candidates for degrees at UTMB must be able to perform the following essential functions with or without accommodations. Each program will further elaborate on these general descriptions so that they are congruent with the professional roles toward which each program educates:

1. Observation (to include the various sensory modalities): Candidates must be able to accurately observe close at hand and at a distance to gather data and learn skills.
2. Communication: Candidates must be able to communicate effectively and efficiently process and comprehend written materials.
3. Psychomotor Skills: Candidates must be able to execute the various tasks and physical maneuvers that are required within the program.
4. Intellectual and Cognitive Abilities: Candidates must be able to measure, calculate, reason, analyze, synthesize, integrate, remember and apply information; comprehend three-dimensional relationships; and understand the spatial relationships of structures. Creative problem-solving and clinical reasoning require all of these intellectual abilities.
5. Professional and Social Attributes: Candidates must be able to exercise good judgement and promptly complete all responsibilities required of each course; develop mature, sensitive and effective professional relationships with others; tolerate taxing workloads; function effectively under stress; adapt to changing environments; display flexibility; and function in the face of uncertainties and ambiguities. Concern for others, interpersonal competence and motivation are requisite for all courses.
6. Ethical Standards: Candidates must be able to demonstrate professional attitudes and behaviors; perform in an ethical manner in dealings with others. All programs require personal integrity and the adherence to standards that reflect the values and functions of the profession.

In addition, students in the program will need to perform the following essential cognitive, affective, and psychomotor functions, with or without reasonable accommodations:

1. Process, retain, and integrate information from the following types of sources: BlackBoard data, film and video segments, audio recordings, clinical simulations, and group interactions in BlackBoard.
2. Complete coursework that may require independent use of computer, following written or verbal instructions, knowledge, verbalizing personal thoughts and opinions, BlackBoard discussion groups, written reports, and presenting oral reports.

ADMISSIONS REQUIREMENTS

- Bachelor's Degree
- GPA 3.0 or above on a 4.0 scale
- Graduate Record Examination (last 5 years)
- TOEFL score of at least 550 (if English is a second language)
- 3 Letters of recommendation
- 300-500 word essay describing professional goals and how the degree will accomplish these goals

PROFESSIONAL CURRICULUM

Core Courses (all courses are required)

MSHP 5301	Medical Ethics	3
MSHP 5302	Introduction to Scientific Writing	3
MSHP 5303	Health Care Policy	3
MSHP 5204	Thesis Project I or equivalent	2
MSHP 5205	Thesis Project II or equivalent	2
MSHP 5206	Thesis Project III or equivalent	2

Program Courses (5 courses are required)

MSHP 5310	Human Resources and Leadership	3
MSHP 5311	Management of Health Information	3
MSHP 5312	Financing Health Care	3
MSHP 5313	Quality Assurance and Risk Management	3
MSHP 5320	Developing Education Materials	3
MSHP 5321	Classroom Technology	3
MSHP 5322	Education Laboratory and Clinical	3
MSHP 5323	Technology Clinical Simulation	3

Electives (at least 1 course is required)

OCCT 6253	Evidence Based Practice	3
OCCT 6359	Health Promotion and Wellness	3
PHYT 6270	Global Health Interprofessional Studies I	2
PHYT 6271	Global Health Interprofessional Studies II	2

TOTAL PLAN CREDITS **32-33**

Course Descriptions:

(In numerical sequence; hours of lecture, lab, clinical, conference, discussion or seminar may be substituted by one or more learning activities; see course syllabus for details.)

MSHP 5301 Medical Ethics **3 Credits**

The student will be given the opportunity to: 1) describe ethics and values in a health care setting; 2) evaluate the values of ethical principles among health care professionals; 3) assess the process of resolution when presented with an ethical dilemma; 4) apply ethical standards related to mental health, experimentation on human subjects, patient consent, genetics, and rights to death, and; 5) integrate the knowledge of medical ethics into the health care practice. (45 lecture hours per enrollment period). Prerequisites: None

MSHP 5302 Introduction to Scientific Writing **3 Credits**

The student will be given the opportunity to: 1) examine the scientific literature and peer reviewed journals; 2) analyze the history research and identify the proper steps involved in the research process; 3) apply appropriate use of writing skills in a scientific paper; and 4) prepare a paper suitable for publication in a peer reviewed journal. (45 independent study hours per enrollment period). Prerequisites: None

MSHP 5303 Health Care Policy for Clinicians **3 Credits**

This course provides the student with the opportunity to: 1) examine intricacies of health policy development, implementation and how various health policies affect their profession and patients; 2) define the federal, state, and local government's role in the development of health policy; 3) evaluate the current Medicare/Medicaid systems and identify how these systems affect the care they provide; 4) examine health policy and how it may affect the care given to minorities and the uninsured; 5) evaluate the current health care policy issues affecting women's health care; 6) review a comprehensive analysis of a health care policy; and 7) differentiate the health care policy issues affecting public health in the United States. (45 independent study hours per enrollment period). Prerequisites: None

MSHP 5304 Capstone or Thesis Project I **3 Credits**

This course provides the student with the opportunity to: 1) develop a medical database to identify focused peer-reviewed literature and journal articles; 2) synthesize scientific information, 3) analyze the research data; and 4) develop scientific writing skills. Students may choose from a wide variety of topics including but not limited to education or instructional applications, management, clinical research, equipment evaluation or performance, or focused reviews of the scientific literature. During the first portion of this course, students must work with an advisor to complete an approved project proposal. Credit for this course requires submission of a scientific paper in journal publication format including: abstract; introduction/background purpose; methods (for literature review projects the methods will include the search criteria and history); results; discussion/ implications; conclusion; and an oral presentation to faculty and peers. (45 independent study hours per enrollment period). Prerequisites: None

MSHP 5305 Capstone or Thesis Project II **3 Credits**

Continuation of Thesis Project I. This course provides the student with the opportunity to: 1) discuss scientific information related to the literature review; 2) organize a scientific paper using the material in focused peer-reviewed literature and journal articles; 3) review the written material with peers to assess and critique the scientific paper; and 4) defend the scientific paper to the thesis committee. Students may choose from a wide variety of topics including but not limited to educational or instruction applications, management, clinical research, equipment evaluation or performance, or focused reviews of the scientific literature. During the first portion of this course, students must work with an advisor to complete an approved project proposal. Credit for this course requires submission of a scientific paper in journal publication format including: abstract; introduction/background purpose; methods (for literature review projects the methods will include the search criteria and history); results; discussion/implications; conclusion; and an oral presentation to faculty and peers. (45 independent study hours per enrollment period). Prerequisites: MSHP 5304 Thesis Project I.

MSHP 5206 Thesis Project III **2 credits**

Continuation of Thesis Project II. This course provides the student with the opportunity to: 1) discuss scientific information related to the literature review to complete the discussion section; 2) add the reference list used for the thesis project; 3) review the written material with peers to assess and critique the scientific paper; and 4) submit the thesis project to the thesis committee. During this semester, the students must work with an advisor to complete the sections covered during this time. Credit for this course requires complete submission of the thesis project in a journal publication format to the thesis committee including abstract, introduction/background/specific aims, methods, results, discussion, conclusion, acknowledgment, and references. Oral presentation is optional. Prerequisites: MSHP 5204 Thesis Project I and MSHP 5205 Thesis Project II.

MSHP 5310 Human Resources and Leadership **3 Credits**

This course will provide the student the opportunity to: 1) review and discuss organizational design and behavior; 2) analyze organizational processes including employee and customer satisfaction; 3) analyze leadership processes and recognize one's own leadership strengths and weaknesses; 4) review and discuss Human Resource development and talent development within an organization; and 5) develop core competencies necessary for leadership and human resource development (75 independent study hours per enrollment period).

MSHP 5311 Management of Health Information **3 Credits**

This course will provide the student the opportunity to: 1) survey how information systems are used in health care and the health care delivery process; 2) review the use of hospital IT departments and the management of the health information data within departments such as Respiratory , Radiology, Pharmacy, Laboratory, Nursing, etc.; 3) develop knowledge of privacy and security of health care information and HIPAA; and 4) discuss recommendations for health information and electronic medical record from the President's Council of Advisors on Science and Technology and how it will affect health information management in the future (75 independent study hours per enrollment period).

MSHP 5312 Financing Health Care **3 credits**

This course will provide the student the opportunity to: 1) explain and correctly use introductory accounting and financial management terms and concepts as related to health care organizations; 2) construct basic financial reports for health care organizations using principles of financial accounting and financial management; 3) perform and interpret standard financial analyses used in financial planning and decision making; 4) evaluate management problems using financial concepts and analytic techniques; and 5) evaluate the financial management implications of current issues in health care (75 independent study hours per enrollment period).

MSHP 5313 Quality Assurance and Risk Management **3 credits**

This course will provide the student the opportunity to: 1) understand concepts of operating and managing a health care organization or department with the specific purpose of improving efficiencies and the quality of patient care; 2) evaluate how management techniques impact the quality of care; 3) assess concepts of risk management including identifying both real and potential risk exposures in a health-care setting; 4) discuss risk management tools that help minimize, avoid, and/or mitigate these exposures; and 5) discuss ways that quality assurance and risk management programs all play a vital role in patient safety within health care organizations (75 independent study hours per enrollment period).

MSHP 5320 Developing Education Materials **3 credits**

This course will provide the student with the opportunity to: 1) review the literature regarding education theory; 2) develop course objectives; 3) examine various learning styles; 4) evaluate effective content delivery strategies; 5) develop formative and summative assessment tools that measure learning objectives; and 6) perform a quantitative analysis of assessment data to include test item analysis to evaluate achievement of learning objectives (75 independent study hours per enrollment period).

MSHP 5321 Classroom Technology **3 credits**

This course will provide the student the opportunity to: 1) review the literature for current available course management software; 2) apply the use of audio-visual formats for delivery of content; 3) examine methods of capturing content in digital format; 4) use and evaluate of audience response systems; and 5) compare and contrast current software available for the implementation of computer testing (75 independent study hours per enrollment period).

MSHP 5322 Education Laboratory and Clinical **3 credits**

This course will provide the student the ability to develop and deploy all phases of a curricular course including: 1) an overview of competencies that are developed in the laboratory and clinical settings; 2) learning objectives for each of the competencies; 3) methods to facilitate teaching the competency; 4) development of the assessment/ evaluation instruments for the competency; and 5) quantitative analysis of assessment data to include rater-agreement (inter-rater reliability) (75 independent study hours per enrollment period).

MSHP 5323 Technology Clinical Simulation **3 credits**

This course will provide the student the opportunity to: 1) review the current platforms available for human patient simulation; 2) compare and contrast the MetiSim and Laerdal platforms for human patient simulation; 3) review the process of effective debriefing after simulation; 4) utilize a human patient simulator for assessing clinician cognitive and psychomotor ability; and 5) troubleshoot common equipment difficulties encountered with human patient simulators; and develop a clinical scenario for use with a human patient simulator (75 independent study hours per enrollment period).

OCCT 5352 Evidence of Professional Development **3 credits**

The student will be given the opportunity to: 1) describe the use of the American Occupational Therapy Association's Standards of Practice, Code of Ethics, and Occupational Therapy Practice Framework as guides for professional interactions, goals, and the practice of occupational therapy; 2) articulate the importance of evidence based practice and scholarship for the continued development of the occupational therapy profession; 3) analyze varied roles of the occupational therapist as a practitioner, educator, and researcher; 4) integrate professional literature within occupational therapy for professional development; 5) illustrate personal responsibility for planning ongoing professional development to ensure a level of practice consistent with current and accepted standards; 6) integrate the use of scholarship into professional development; and 7) evaluate personal and professional abilities and competencies as they relate to responsibilities and career goals.

OCCT 6359 Health Promotion and Wellness **3 credits**

The student will be given the opportunity to: 1) identify the principles of wellness and health promotion from a personal, client, and community perspective; 2) select appropriate screening tools to assess physical, mental, and social wellness; 3) propose prevention and intervention strategies for self, patients/clients, and a community population; 4) educate clients on nutrition and exercise as an intervention tool for optimizing health and wellness; and 5) understand the effects of disease process on the health and wellness of clients served.

PHYT 6270 Global Health Interprofessional Studies I 2 credits

The course is the core, anchor course for the Global Health Training Program, and provides an overview of critical issues in understanding global health challenges in contemporary society within an inter-professional learning environment. Topics covered in this initial course include overview issues, Public Health and Epidemiology, and Culturally Appropriate Health Care.

PHYT 6271 Global Health Interprofessional Studies II 2 credits

This course is a continuation of core content for the Global Health Training Program. Content in this course includes human rights and global health disparities, women and child health, nutrition and malnutrition, health promotion and behavior change, innovations in global health technology, occupational and other Injuries in developing countries, health impacts of disaster.

Department of Nutrition and Metabolism

Chair and Professor
Blake Rasmussen, Ph.D.

Professor
Douglas Paddon-Jones, Ph.D.

Associate Professor
Jean Gutierrez, PhD, RDN
Elizabeth Lyons, PhD, MPH

Assistant Professor
Christopher Fry, PhD
Christopher Messenger, MS, RD

Adjunct Professor
Victor Sierpina, M.D.

THE DIETETICS PROFESSION

Dietitians are experts in the sciences of food and nutrition. They have special skills in integrating evidence-based practices into appropriate medical nutrition therapies for clients and patients. Dietitians also promote public health by clarifying the relationship between diet and health. Dietitians may work in hospitals, clinics, residential care facilities, schools, in private practice, as well as government and community health agencies. With additional training, advanced degrees or certifications, dietitians may specialize in areas such as diabetes, renal or pediatric dietetics or have opportunities in the food industry, education, research, business or media.

CAREER OPPORTUNITIES

According to the Bureau of Labor Statistics, employment of dietitians and nutritionists is projected to increase 15 percent during the 2016-26 decade, which is faster than average. In addition, dietitians with specialized training, an advanced degree, or certifications are projected to enjoy the best employment opportunities. With such great and diverse opportunities in the field of dietetics, Registered Dietitians (RDs) will continue to play important roles in health-care and other areas in the community.

ESSENTIAL FUNCTIONS

According to Students with Disabilities: An Institutional Policy (1997, p. 8), all candidates for degrees at the University of Texas Medical Branch at Galveston must be able to perform the following essential functions with or without reasonable accommodations:

- Observation (to include the various sensory modalities) - accurately observe close at hand and at a distance to gather data and learn skills.
- Communication - communicate effectively and efficiently; process and comprehend written material.
- Psychomotor Skills - execute the various tasks and physical maneuvers that are required within each program.
- Intellectual and Cognitive Abilities - measure, calculate, reason, analyze, synthesize, integrate, remember and apply information; comprehend three-dimensional relationships; and understand the spatial relationships of structures. Creative problem-solving and clinical reasoning require all of these intellectual abilities.
- Professional and Social Attributes - exercise good judgment and promptly complete all responsibilities required of each program; develop mature, sensitive, and effective

professional relationships with others; tolerate taxing workloads; function effectively under stress; adapt to changing environments; display flexibility; and function in the face of uncertainties and ambiguities. Concern for others, interpersonal competence and motivation are requisite for all programs.

- Ethical Standards - demonstrate professional attitudes and behaviors; perform in an ethical manner in dealings with others. All programs require personal integrity and the adherence to standards that reflect the values and functions of the profession. Many programs also require the honoring of codes of ethics

In addition, students in the Master of Science/Dietetic Internship Program will need to perform the following essential cognitive, affective, and psychomotor functions, with or without reasonable accommodations:

- Process, retain, and integrate information from the following types of sources: oral delivery by instructor(s) or student(s); blackboard data and diagrams; printed material (handouts, journals, manuals, books, medical records, computer); overhead transparencies; slides; film and video segments; audio recordings; live demonstrations; one to one and group interactions in the classroom or clinic; lab specimens, instruments, equipment, and machinery; observation, movement, or manipulation of others' bodies; evaluation and treatment tools; and therapeutic activities.
- Complete coursework that may require: independent mobility to various locations on and off campus; individual, partnered, or group efforts; following written or oral instructions; recording personal opinions, knowledge, or ratings; verbalizing personal thoughts, feelings, and opinions; instructing others; presenting oral reports; facilitating group discussions; role playing; manipulating, lifting, and carrying evaluation and treatment materials; managing time effectively; close physical contact with others in simulated and clinical activities; exposure to hazardous materials and body fluids; and working with individuals with infectious diseases and terminal illnesses.
- Take and pass scheduled and pop quizzes, exams, and lab practicals in a variety of formats.
- Interact with others in a professional manner as defined in the Student Responsibilities and Professional Development Process.
- Perform in an ethical manner as described outlined by the Academy of Nutrition and Dietetics Code of Ethics and the UTMB's Professional Charter.

During the Master of Science/Dietetic Internship Program, the student may be required to attend class or laboratory sessions that meet during the evening hours. Required clinical experiences may also involve relocation to other sites in Texas or surrounding states at the student's expense. During the program, the student will develop the ability to perform the following essential functions required of novice practitioners, with or without reasonable accommodations:

- Collaborate with members of a multidisciplinary healthcare team to develop a plan of treatment based on evaluative data that will prevent, treat, or minimize the risk of nutritional problems.
- Perform the Assessment, Diagnosis, Intervention, and Monitoring/Evaluation (ADIME) nutrition care process on patients and clients with diverse backgrounds.
- Document the practice process in a variety of formats.
- Function competently as part of a collaborative healthcare team.
- Function with competence and compassion in a variety of practice settings.
- Contribute to effective and ethical management practices.
- Contribute to the profession's continued growth through research and professional activities.

LICENSING/CERTIFICATION

To become an RD, one must complete an accredited didactic program in dietetics, which are offered at either the undergraduate or graduate level. The course work must be accredited or approved by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics (AND). Thereafter, the student must complete an ACEND accredited supervised practice experience called a dietetic internship. The final step is passing the national registered dietitian examination administered by the Commission on Dietetics Registration. In addition to national registration credentialing, many states have regulatory laws requiring licensure to practice nutrition in the state.

EDUCATIONAL PHILOSOPHY OF THE PROGRAM

The program is committed to providing a broad range of experiences to students, so they may become competent dietitians in a variety of settings. The program adopts the values of the institution and the School of Health Professions, which are to demonstrate compassion to all, to act with integrity, to show respect to everyone, to embrace diversity, and to promote excellence and innovation through lifelong learning. The program encompasses these values while encouraging critical thinking, leadership development, management skills and team building to facilitate the transition of the student from an intern to an entry-level practitioner.

OBJECTIVES AND GOALS OF THE CURRICULUM

The objective of the curriculum is to provide professional education by offering the Master in Nutrition and Metabolism combined with supervised practice experience for individuals seeking an advanced degree, with eligibility to sit the registration exam to become a registered dietitian.

Complete and current goals, objectives, and program outcomes submitted to ACEND for accreditation may be found on the department website at https://shp.utmb.edu/nutr/ goalsandoutcomes.asp.

PROFESSIONAL CURRICULUM

Combined Master of Science/Dietetic Internship

The four semester, full-time program is a non-thesis masters of science program which requires 2 semesters of primarily didactic coursework and two semesters consisting on primarily practicum experiences. The dietetic internship practicum consists of at least 1240 hours of supervised practice experience. A total of 44 credit hours are required for completion of the program; 24 credit hours of didactic coursework, and 20 credit hours supervised practice practicum experience. Upon completion of the combined program, students will be conferred a Master of Science in Nutrition and Metabolism, receive a verification statement indicating successful completion of the dietetic internship, and are eligible to sit for the RD exam.

Academic Performance Standards

Students are expected to maintain a minimum GPA of 3.0 during the 2 semesters of didactic coursework. A cumulative GPA of 3.0 or higher is required for graduation. Supervised practice courses are graded as Pass/No Pass.

Combined Masters/Dietetic Internship Course of Study

Fall, Year 1

NUTR 6107 Ethics and Clinical Nutrition 1
NUTR 6202 Evidence-Based Practice for Clinical Nutrition 2
NUTR 6400 Advanced Nutrition & Metabolism 4
NUTR 6402 Quality Management and Informatics in Dietetics 4

TOTAL HOURS 11

Spring, Year 1

NUTR 6205 Nutrition & Metabolism in Sports & Exercise 2
NUTR 6206 Nutrition & Metabolism Seminar 2
NUTR 6304 Weight Control Management 3
NUTR 6503 Advanced Medical Nutrition Therapy 5
NUTR 5211 Community Nutrition 2

TOTAL HOURS 14

Summer, Year 1

NUTR 5212 Selective 2
NUTR 5413 Foodservice (Hospital & School) 4
NUTR 5411 Clinical I 4

TOTAL HOURS 10

Fall, Year 2

NUTR 5110 Management of Nutritional Care 1
NUTR 5412 Clinical Nutrition II 4
NUTR 5320 Research 3
NUTR 6108 Professional Issues in Clinical Nutrition 1

TOTAL HOURS 9

Course Descriptions:

(In numerical sequence; hours of lecture, lab, clinical, conference, discussion or seminar may be substituted by one or more learning activities; see course syllabus for details.) These courses are open to Nutrition and Metabolism majors only unless otherwise specified or with consent of the departmental chairperson.

NUTR 5110 Supervised Practice: Management of Nutrition Care 1 Credit

The student will be given the opportunity to return to a rotation site to complete management-related competencies. The student will utilize skills learned in prior rotations to address nutrition care needs of patients/clients and practice delegation and leadership. (80 practicum hours). *Prerequisites: Successful completion of previous NUTR courses.*

NUTR 5212 Supervised Practice: Selective 2 Credits

Students will have the opportunity to: 1) complete at least 120 supervised practice hours in an area of interest; 2) comply with current federal regulations and state statutes and rules, as applicable and in accordance with accreditation standards and the Scope of Dietetics Practice, and Code of Ethics for the Profession of Dietetics; 3) demonstrate active participation, teamwork and contributions in group settings; and 4) demonstrate professional attributes within various organizational cultures. *Prerequisites: Successful completion of previous NUTR courses.*

NUTR 5211 Supervised Practice: Community Nutrition 2 Credits

The student will spend 120 hours completing supervised practice activities. Activities will include conducting assessments of the nutritional status of the population and/or community, conducting community-based health promotion/disease prevention programs and participate in the education and training for target groups. Students will rotate through various facilities and participate in community programs. (120 practicum hours). *Prerequisites: Successful completion of previous NUTR courses.*

NUTR 5320 Supervised Practice: Research in Nutrition 3 Credits

The student will complete 200 hours of supervised practice while being directly involved in nutrition-related research. Students will learn about research ethics, research involving human and/ or animal subjects, data collection & analysis, and presentation. Students will learn how to collect and analyze research data. (200 practicum hours). *Prerequisites: Successful completion of previous NUTR courses.*

NUTR 5411 Supervised Practice: Clinical Nutrition I 4 Credits

The first phase of the supervised clinical nutrition practicum will consist of 240 hours. Students will learn the basics of nutritional screening, assessment and patient care, provide patient education and contribute to interdisciplinary team conferences to discuss patient/client treatment and discharge planning. (240 practicum hours). *Prerequisites: Successful completion of previous NUTR courses.*

NUTR 5412 Supervised Practice: Clinical Nutrition II 4 Credits

Supervised practice Clinical II is an advanced practice rotation where the skills learned in Clinical I will be used to work with more complicated disease states. The practicum will consist of 240 hours. Activities will involve the selection, implementation and evaluation of standard enteral and parenteral nutrition regimens, the utilization of all stages of the nutrition care process, and to provide education and interventions in health promotion and disease for patients and clients with a variety of disease states. (240 practicum hours). *Prerequisites: Successful completion of previous NUTR courses.*

NUTR 5413 Supervised Practice: Foodservice (Hospital & School) 4 Credits

The student will meet ACEND competencies relating to food service management while completing 240 hours of supervised practice in appropriate settings (e.g. school and/or hospital). Students will develop and measure outcomes, conduct quality improvement activities, complete sensory evaluations, and participate in staff supervisory activities during the practicum. (240 practicum hours). *Prerequisites: Successful completion of previous NUTR courses.*

NUTR 6107 Professional Issues in Clinical Nutrition 1 Credit

The student will be given the opportunity to: 1) discuss and analyze topics and case scenarios from supervised practice experiences which are related to professional clinical practice issues. (15 lecture hours per enrollment period). *Corequisites: Enrollment in MS degree courses.*

NUTR 6108 Ethics and Clinical Nutrition 1 Credit

The student will be given the opportunity in this online course to: 1) determine the primary ethical considerations in the practice of clinical nutrition; 2) apply knowledge of ethical principles and legal concepts to clinical case scenarios. (15 lecture hours per enrollment period). *Corequisites: Enrollment in MS degree courses.*

NUTR 6202 Evidence-Based Practice for Clinical Nutrition 2 Credits

The student will be given the opportunity to: 1) determine the need for evidence-based practice in clinical nutrition; 2) demonstrate how the methods and procedures developed in clinical medicine; 3) can be used to establish evidence-based strategies in working with persons in need of nutritional support. (30 lecture hours per enrollment period). *Corequisites: Enrollment in MS degree courses.*

NUTR 6205 Nutrition & Metabolism in Sports & Exercise 2 Credits

The student will be given the opportunity to: 1) integrate advanced concepts of nutrition and metabolism in physical activity, exercise, sports performance; 2) determine the effects of nutritional ergogenic aids on human performance. (30 lecture hours per enrollment period). *Corequisites: Enrollment in MS degree courses.*

NUTR 6206 Nutrition & Metabolism Seminar 2 Credits

The student will be given the opportunity to: 1) integrate the current nutrition and metabolism literature; 2) determine the emerging issues in nutrition; 3) evaluate the policy implications and evidence behind nutrition position statements; 4) critically evaluate, interpret and present current and original nutrition journal articles. (30 lecture hours per enrollment period). *Corequisites: Enrollment in MS degree courses.*

NUTR 6304 Weight Control Management 3 Credits

The student will be given the opportunity to: 1) determine the basic theories of weight regulation and the effect of weight and body composition on health; 2) integrate epidemiological, biomedical, behavioral and social approaches to obesity; 3) design and evaluate strategies for obesity prevention and weight loss; 4) design and evaluate the maintenance of weight in clinical conditions associated with wasting. (45 lecture hours per enrollment period). *Corequisites: Enrollment in MS degree courses.*

NUTR 6400 Advanced Nutrition & Metabolism 4 Credits

The student will be given the opportunity to: 1) synthesize advanced knowledge relating to human nutrition and metabolism; 2) demonstrate competence in macronutrient and micronutrient metabolism including digestion, transport and utilization of carbohydrate, fats, cholesterol, protein and micronutrients; 3) integrate principles of nutrition in the maintenance of health and the development of disease. (60 lecture hours per enrollment period). *Corequisites: Enrollment in MS degree courses.*

NUTR 6402 Quality Management and Informatics in Dietetics 4 Credits

The student will be given the opportunity to: 1) discuss basic quality management & leadership theories, principles, and practices in health care delivery; 2) describe situations in terms of risk management and quality improvement issues; 3) demonstrate the ability to design ongoing processes for quality improvement; 4) explain of the role of effective retrieval, organization, storage, and optimum use of information, data and knowledge for food and nutrition related problem solving and decision making, a.k.a., nutrition informatics; 5) demonstrate the ability to use informatics with the Nutrition Care Process for quality improvement. (60 lecture hours per enrollment period). *Corequisites: Enrollment in MS degree courses.*

NUTR 6503 Advanced Medical Nutrition Therapy 5 Credits

The student will be given the opportunity to: 1) describe the nutrition care process, nutrition assessment, planning of special diets, and applications of medical nutrition therapy for selected disease states and conditions; 2) determine the interrelationships of physiology and the biochemistry of disease and dietary intervention. (75 lecture hours per enrollment period). *Corequisites: Enrollment in MS degree courses.*

Program Prerequisites:

The following are required for admission into the program:

1. Proof of completed undergraduate degree and ACEND accredited didactic program (DPD). Proof consists of final transcript and a valid verification statement signed by the student's DPD program director. This proof is required after an applicant matched to UTMB and before the start of the Fall semester.
2. GRE scores are required as a part of the DICAS applications.
3. Complete computer matching form at http://www.dnddigital.com.
4. Complete the Dietetic Internship Centralized Application Services (DICAS) in the Spring: https://portal.dicas.org/
5. After matching to the program, please submit the SHP application found at: https://www.utmb.edu/enrollmentservices/resources/admissions/school-of-health-professions-application-info.
6. Proof of current health insurance (required of all UTMB students), immunizations, and other requirements as stated by the program director

Department of Occupational Therapy

Chair and Associate Professor
Patricia Fingerhut, OTR, Ph.D.

Professor
Kenneth J. Ottenbacher, OTR, Ph.D., FAOTA
Timothy Reistetter, OTR, Ph.D.,

Associate Professor
Claudia Hilton, OTR, Ph.D., FAOTA

Associate Professor, Instruction
April Cowan, OTR, OTD, CHT

Assistant Professor
Diane Collins, OT, Ph.D.
Joanne Flanagan, OTR, ScD.
Ickpyo Hong, OTR, PhD.
Kshitija Kulkarni, OTR, PhD.
Chih-ying Li, OTR, PhD.

Assistant Professor, Instruction
Loree Pryor, OTR, MOT
Karen Ratcliff, OTR, MS

Clinical Professor
Brent E. Masel, M.D.

Professor Emeritus
Suzanne M. Peloquin, OTR, Ph.D., FAOTA

Associate Professor Emeritus
Donald A. Davidson, OTR, M.A.
Gretchen Stone, OTR, Ph.D., FAOTA

THE PROFESSION

Occupational therapy is a science-driven, evidence-based profession that enables people of all ages to live life to the fullest by helping them promote health and prevent—or live better with—illness, injury or disability. Practitioners must complete supervised clinical fieldwork in a variety of health care or community settings and pass a national examination. Most states, including Texas, also regulate occupational therapy practice.

The American Occupational Therapy Association's vision for 2025 is "Occupational therapy maximizes health, well-being, and quality of life for all people, populations, and communities through the effective solutions that facilitate participation in everyday living (AOTA 2016)."

GRADUATE OCCUPATIONAL THERAPIST

One of the greatest advantages of a career in occupational therapy is the wide variety of opportunities available to occupational therapy graduates. Many practitioners choose to help children thrive in the "occupations" of childhood, which include learning, playing, and growing. Therapists work in schools with students who have learning disabilities or behavioral problems. Others work with premature newborns at pediatric hospitals or children with cerebral palsy,

Down syndrome, and other disabilities. Occupational therapists also work with individuals in their homes, community centers, rehabilitation hospitals, businesses, and nursing homes. In these settings, occupational therapists help people with traumatic injuries, stroke, Alzheimer's disease, and other physical and mental health problems learn to live productive lives through the use of meaningful occupations. Those who join the field today may choose other areas of practice that are increasingly important. In community settings Occupational Therapists train workers to use proper ergonomics on the job, help people with low vision maintain their independence, make buildings and homes more accessible, provide older driver evaluation and training, and promote population and community health and wellness.

ESSENTIAL FUNCTIONS

According to Students with Disabilities: An Institutional Policy (1997, p. 8), all candidates for degrees at the University of Texas Medical Branch at Galveston must be able to perform the following essential functions with or without reasonable accommodations:

1. Observation (to include the various sensory modalities) - accurately observe close at hand and at a distance to gather data and learn skills.
2. Communication - communicate effectively and efficiently; process and comprehend written material.
3. Psychomotor Skills - execute the various tasks and physical maneuvers that are required within each program.
4. Intellectual and Cognitive Abilities - measure, calculate, reason, analyze, synthesize, integrate, remember and apply information; comprehend three-dimensional relationships; and understand the spatial relationships of structures. Creative problem-solving and clinical reasoning require all of these intellectual abilities.
5. Professional and Social Attributes - exercise good judgment and promptly complete all responsibilities required of each program; develop mature, sensitive, and effective professional relationships with others; tolerate taxing workloads; function effectively under stress; adapt to changing environments; display flexibility; and function in the face of uncertainties and ambiguities. Concern for others, interpersonal competence and motivation are requisite for all programs.
6. Ethical Standards - demonstrate professional attitudes and behaviors; perform in an ethical manner in dealings with others. All programs require personal integrity and the adherence to standards that reflect the values and functions of the profession. Many programs also require the honoring of codes of ethics.

In addition, students in the Occupational Therapy Program will need to perform the following essential cognitive, affective, and psychomotor functions, with or without reasonable accommodations:

1. Process, retain, and integrate information from the following types of sources: oral delivery by instructor(s) or student(s); blackboard data and diagrams; printed material (handouts, journals, manuals, books, medical records, computer); film and video segments; audio recordings; live demonstrations; one to one and group interactions in the classroom or clinic; lab specimens, instruments, equipment, and machinery; observation, movement, or manipulation of others' bodies; evaluation and treatment tools; and therapeutic activities.
2. Complete coursework that may require: independent mobility to various locations on and off campus; individual, partnered, or group efforts; following written or oral instructions; recording personal opinions, knowledge, or ratings; verbalizing personal thoughts, feelings, and opinions; instructing others; presenting oral reports; facilitating group discussions; role playing; manipulating, lifting, and carrying evaluation and treatment

materials; managing time effectively; close physical contact with others in simulated and clinical activities; exposure to hazardous materials and body fluids; and working with individuals with infectious diseases and terminal illnesses.

3. Take and pass scheduled and pop quizzes, exams, and lab practicals in a variety of formats.
4. Interact with others in a professional manner as defined in the Student Responsibilities and Professional Development Process.
5. Perform in an ethical manner as described in the American Occupational Therapy Association Code of Ethics and Ethics Standards and the UTMB's Professionalism Charter.

During the occupational therapy program, the student may be required to attend class or laboratory sessions that meet during the evening hours. Required clinical experiences may also involve relocation to other sites in Texas or surrounding states at the student's expense. During the program, the student will develop the ability to perform the following essential functions required of novice practitioners, with or without reasonable accommodations:

1. Evaluate an individual's performance in areas of occupation (basic activities of daily living, instrumental activities of daily living, rest and sleep, education, work, play, leisure, and social participation). Evaluate performance skills (sensory perceptual skills, motor and praxis skills, emotional regulation skills, cognitive skills, and communication and social skills). Evaluate factors specific to individuals in concert with the context and environment in which they live, the daily habits, roles and routines they adopt, and the demands of activities they want to or need to do.
2. Collaborate with an individual in formulating a plan of treatment based on evaluative data that will prevent, treat, or compensate for occupational performance problems.
3. Implement individual and group intervention(s) with individuals of various ages and from divergent cultural or socioeconomic backgrounds.
4. Document the practice process in a variety of formats.
5. Function competently as part of a collaborative team.
6. Function with competence and compassion in a variety of practice arenas.
7. Contribute to effective and ethical management practices.
8. Contribute to the profession's continued growth through research and professional activities.

LICENSING AND CERTIFICATION

This professional course of study in occupational therapy is fully accredited by the Accreditation Council for Occupational Therapy Education (ACOTE). For more information, please contact:

4720 Montgomery Lane, Suite 200
Bethesda, MD 20814–3449
(301) 652–AOTA (2682)
www.acoteonline.org

The Executive Council of Physical Therapy and Occupational Therapy Examiners
333 Guadalupe, Suite 2–510
Austin, TX 78701–3942
Phone: (512) 305–6900 Fax: (512) 305–6970
or (512) 305–6951 info@ecptote.state.tx.us

PROFESSIONAL CURRICULUM

The curriculum is designed to offer students the opportunity to identify their own strengths, assume responsibility for their own education, and achieve entry-level competence for practice in the profession. During the 23-month professional course of study, the student is provided with opportunities for mastery of knowledge of the structure, function, and pathology of the human organism; the tasks and needs inherent in each period of human development; the relationship between meaningful activity and health and life satisfaction; and other concepts and processes basic to the practice of occupational therapy. In addition to traditional lecture and laboratory course work, the student is provided with opportunities to integrate theory and practice through fieldwork education. Following successful completion of all academic course work requirements, the student undertakes a minimum of six months of full-time supervised fieldwork experience, designated as Level II Fieldwork. Fieldwork education is provided within UTMB Hospitals in Galveston and in approved, affiliated off-campus locations. Relocation to off-campus facilities at

the student's own expense is required for most Level II Fieldwork. All fieldwork education must be completed within 24 months of completion of academic coursework.

On completion of all curriculum requirements with a minimum GPA of 3.0, the designated degree of Master of Occupational Therapy is conferred. Graduates of the program will be eligible to sit for the national certification examination for occupational therapists administered by the National Board for Certification in Occupational Therapy (NBCOT). They may then use the letters "OTR" (Occupational Therapist, Registered). After receiving a successful pass rate on the national exam, candidates will be eligible to apply for licensure to practice in Texas. Licensure is conferred by the Texas Executive Council of Physical Therapy and Occupational Therapy Examiners.

All states regulate occupational therapy practice. Conviction of a felony offense may result in ineligibility to receive licensure in Texas. Each case is considered on an individual basis by the state licensing agency. For further information contact:

National Board for Certification in Occupational Therapy 12 South Summit Avenue, Suite 100
Gaithersburg, MD 20877–4150 www.nbcot.org

The Executive Council of Physical Therapy and Occupational Therapy Examiners
333 Guadalupe, Suite 2–510
Austin, TX 78701–3942
Phone: (512) 305–6900 Fax: (512) 305–6970 or
(512) 305–6951 info@ecptote.state.tx.us

MOT PROFESSIONAL COURSE OF STUDY

Semester 1 (Fall – 1st Year)

OCCT 5110	Applied Reasoning I	1
OCCT 5114	Patient Care Skills	1
OCCT 5212	Domain: Context & Environment	2
OCCT 5220	Domain: Human Occupation	2
OCCT 5221	Domain: Personal Performance	2
OCCT 5311	OT Process and Foundations	3
OCCT 5325	Applied Anatomy & Kinesiology	3
OCCT 6222	Selective I (can be taken during any 1st 4 semesters)	2
	TOTAL HOURS	**16**

Semester 2 (Spring – 1st Year)

OCCT 5113	Applied Reasoning II	1
OCCT 5121	Fieldwork Practicum I	1
OCCT 5315	Use of Self and Groups	3

OCCT 6313	Foundations of Research I	3
OCCT 6319	Foundations for Neurological Practice	3
OCCT 6219	Child Practice Lab	2
OCCT 6308	Practice with Child	3
	TOTAL HOURS	**16**

Semester 3 (Summer – 1st Year)

OCCT 6110	Applied Reasoning III	1
OCCT 6121	Fieldwork Practicum II	1
OCCT 6216	Foundations of Research II	2
OCCT 6221	Interventions for Neurological Practice	2
OCCT 6226	Neurological Lab	2
OCCT 6318	Learning and Cognition	3
OCCT 6210	Psychosocial Intervention	2
OCCT 6211	Psychosocial Lab	2
	TOTAL HOURS	**15**

Semester 4 (Fall – 2nd Year)

OCCT 6120	Applied Reasoning IV	1
OCCT 6131	Fieldwork Practicum III	1
OCCT 6207	Experience of Practice	2
OCCT 6317	Specialized Practice	3
OCCT 6330	OT Management	3
OCCT 5222	Musculoskeletal Lab	2
OCCT 5323	Musculoskeletal Intervention	3
OCCT 6225	Legal and Ethics	2
	TOTAL HOURS	**17**

Semester 5 (Spring – 2nd Year)

OCCT 6900	Level II Fieldwork	9
	TOTAL HOURS	**9**

Semester 6 (Summer – 2nd Year)

OCCT 6900	Level II Fieldwork	9
	TOTAL HOURS	**9**

TOTAL PROGRAM HOURS **82**

Course of Study for Post Professional Occupational Therapy Doctorate (Bachelors to Doctorate and Masters to Doctorate)

Pre degree semester for BS to OTD (Fall)

OCCT 5351	Basic Research Methodology	3
OCCT 5352	Professional Development	3
	TOTAL HOURS	**6**

MS to OTD and BS to OTD who have completed Pre degree courses

Semester I Spring

OCCT 6350	Evidence Based Practice	3
OCCT 6354	Theory for Practice	3
OCCT 6149	Capstone I	1
	TOTAL HOURS	**7**

Semester II Summer

OCCT 6256	Leadership	2
OCCT 6351	Research Methodology for Practice	3
OCCT 6151	Capstone II	1
	TOTAL HOURS	**6**

Semester III Fall

OCCT 6355	Program Development	3
OCCT 6253	Outcome Measures for Practice	2
	TOTAL HOURS	**5**

Semester IV Spring

OCCT 6249	Capstone III	2
OCCT 6357	Healthcare Policy and Ethics	3
	TOTAL HOURS	**5**

Semester V Summer

OCCT 6358	Education Theory in Academic and Clinical Practice	3
OCCT 6359	Health Promotion and Wellness	3
OCCT 6360	Contemporary Practice with Children	3
OCCT 6361	Contemporary Practice with Adults	3
*The student chooses two selective courses		6

Semester VI Fall

OCCT 6356	Current Issues and Trends in Occupational Therapy	3
OCCT 6251	Capstone IV	2
	TOTAL HOURS	**5**

TOTAL PROGRAM CREDITS 40 BACHELORS TO DOCTORATE; 34 MASTERS TO DOCTORATE

Academic Performance Standards

These courses are open to Occupational Therapy majors only or with the consent of the Department Chair. Students in good standing in master's programs in the School of Health Professions must maintain a GPA of 3.0 during each semester or term. Students must receive a grade of "C" or better in all required didactic courses and either a "B" or satisfactory grade in all clinical courses. A cumulative GPA of 3.0 or higher is required for graduation. Please see the "Academic Progress" section of this bulletin for additional information regarding academic performance standards, scholastic probation, and dismissal policies.

Occupational Therapy Honor Society

Pi Theta Epsilon is an honor society for occupational therapy students that recognizes and encourages superior scholarship, research, and service among students in professional programs across the country. The SHP Department of Occupational Therapy sponsors the Nu Chapter of this society. Each year students are invited to join on the basis of grade point average and community, school, and professional service.

Program Prerequisites

In addition to the general University admissions requirements, applicants must meet the following requirements:

- You must have at least one Anatomy & Physiology course completed before you can be accepted into the program.

- All prerequisites must be completed by the spring semester before you can start the MOT program in the fall. You will not be able to take courses during the summer semester.
- Have a Baccalaureate degree from an accredited college/university at the time of matriculation into the Master of Occupational Therapy Program. A degree in any area of study will be accepted.
- As part of or in addition to obtaining the bachelor's degree, the applicant must complete the prerequisite courses listed below with a grade of "C" or better.
  - Abnormal Psychology - 3 hours
  - Human Anatomy and Physiology (including lab) - 8 hours
  - Human Movement or Physics - 3 hours
    (i.e. analysis of movement, biomechanics, anatomical kinesiology)
  - Lifespan Human Development - 3 hours
  - Neurological Basis for Human Behavior - 3 hours
    (i.e. physiology psychology, behavioral neurosciences, biopsychology, brain and behavior, neuroanatomy, neurobiology, neurophysiology, neuroscience)
  - Statistics or Research Design/Methods - 3 hours
  - Behavioral Sciences - 3 hours (take one)
    (i.e. Intro to Sociology, Intro to Anthropology, or Intro to Psychology)
- Complete an online application with the Occupational Therapy Centralized Application Service (OTCAS). Also you must submit a supplemental application with UTMB.
- The applicant must provide documentation of at least 20 clock hours of observation, volunteer or paid experience in one or more occupational therapy settings prior to the time of application. The applicant must independently locate volunteer settings.
- The applicant must provide three professional recommendations. At least one of these recommendations must be from a supervisor (either an OTR or COTA) during your observation, volunteer or work setting.
- Must send in all official transcripts from each college/university that you have attended.
- The applicant, if invited, will come to the UTMB campus to engage in an individual interview and compose a written essay on a given topic.
- Have a minimum overall GPA of 3.0 on a 4.0 scale.
- Have a minimum prerequisite GPA of 3.0 on a 4.0 scale.
- Applicants must submit results of the Graduate Record Examination (verbal and quantitative scores). GRE code is 1994.

THE POSTPROFESSIONAL OCCUPATIONAL THERAPY DOCTORATE (OTD)

The UTMB Post Professional Occupational Therapy Doctorate (OTD) program is for experienced occupational therapy (OT) practitioners who are looking for opportunities to obtain advanced professional credentialing that will prepare them for leadership and management positions in clinical settings and teaching positions at universities. The program is designed to provide the advanced skills and knowledge needed to lead the profession and promote evidence based practice. The primarily online format will provide alumni, as well as graduates from other schools, with the opportunity to advance their skills and careers without leaving their homes for extended periods of time.

Program Mission and Graduate Outcomes

The aim of UTMB's post-professional OTD program is to address the current critical need for leaders of habilitation and rehabilitation teams who have 1) advanced management skills, 2) the capacity to develop innovative models of service delivery, 3) the ability to effectively mentor those just entering the workplace, 4) a grasp of research methodology sufficient to implement evidence-

based practices, 5) the skills and knowledge to evaluate effectiveness and efficiency of systems of care, and 6) the leadership skills to implement change as needed. Graduates will be able to search, analyze and synthesize information for clinical evidence based decision making, serve effectively as members of inter-professional teams, create networks between institutions and communities, and address local priorities by maximizing systems of care. Ultimately, they will have the skills and knowledge to become leaders in healthcare who are capable of anticipating and meeting emerging patient and population needs, and who implement systems for delivering services that are cost effective and close gaps resulting from healthcare disparities. They will also promote evidence based practice through adjunct or clinical lectures in entry-level programs and as clinical supervisors during fieldwork rotations.

The program is committed to the development of the OT that can:

1. Promote evidence-based practice within his/her practice setting.
2. Evaluate, develop, and implement client-centered, evidence-based, theory-driven, and occupation- centered programs/projects to serve clients, communities, and populations with advanced OT practice.
3. Disseminate knowledge and skills to clients, colleagues, and/or students.
4. Advocate for clients, communities, populations and the profession of OT.
5. Advance OT profession through clinical practice, knowledge dissemination, and scholarship.
6. Develop OT best practice through lifelong learning, management, and leadership.
7. Collaborate with stakeholders in health and education to facilitate client outcomes and represent the profession of OT.

Admission Requirements for OTD

In addition to the general admission requirements of the UTMB Graduate School, applicants must meet the following minimum acceptable standards of admission:

1. Bachelor's or master's degree in occupational therapy from an accredited college or university
2. Cumulative minimum GPA of 3.0 from prior course work.
3. Current (within 5 years) GRE scores if applying with a bachelor's degree (The GRE is not required if applying with a master's degree). GRE institution code is 6887.
4. Three or more years of relevant occupational therapy experience post-graduation
5. Be working in an occupational therapy practice setting (clinical, community, or education)
6. Three letters of recommendation
7. A personal statement
8. Complete an interview with Admissions Committee
9. A non-refundable enrollment fee of $200.00 that is applied to the student's tuition

Application Procedures

OTD applicants must submit:

1. A completed application along with a $50.00 non-refundable application fee and a letter of application. The application deadline for the OTD program is August 15, 2016, for baccalaureate trained therapists and November 15, 2016, for Master's trained therapists.
2. Three letters of recommendation from persons who can evaluate the applicant's potential for doctoral study. Letters of recommendation should be from an academic advisor, professor or supervisor. One letter must be from an occupational therapist.

3. A personal statement addressing goals and reasons for wanting to pursue doctoral work.
4. Current Curriculum Vitae
5. Official transcripts from all undergraduate and graduate institutions attended sent directly to UTMB enrollment services.
6. Confirmation of initial certification for certification by the National Board for Certification in Occupational Therapy.
7. Confirmation of current licensure in state of residence.

Curriculum

The post-professional OTD at UTMB will be an online curriculum with only two visits to campus during the course of the program. The program is designed to be taken part-time over 2 years (6 semesters). This provides an opportunity to achieve higher-level clinical education while maintaining employment. All students entering the program will have entry level degrees in OT and at least three years clinical experience. Students will be able to tailor their programs beyond the required courses to achieve knowledge that will facilitate their specific career goals.

To develop practice-scholars and leaders in health and human service, coursework promotes reflection on practice in the context of professional trends, use of research, clinical reasoning, program evaluation, best practice, and roles associated with being an occupational therapist such as advocate, educator, clinician, manager and entrepreneur. Learning activities facilitate the development of the OT practice-scholar who embeds research in his/her everyday practice. Elective courses highlight advances in science associated with specialty areas of practice. Upon completion of a majority of coursework, students must successfully generate a Capstone Project, an individualized, culminating scholarly work demonstrating synthesis of curricular content, informing OT, and illustrating application of the best available evidence at the point of care.

Most students will complete UTMB's post-professional OTD in two years. The curriculum allows the program to provide an intense pre-degree semester for students with Baccalaureate degrees. Before entering the post-professional OTD program, students with Baccalaureate degrees are required to take three credit-hours in a research design and analysis course at a Master's level and three credit-hours of portfolio development demonstrating advanced clinical expertise.

The prerequisite courses needed for Bachelor's graduates to establish competency for a doctoral program is guided by UTMB faculty. This will allow mentorship in the development of a portfolio that establishes the essential pre-doctoral knowledge required for the program. Bachelors trained students will complete the program in seven semesters. Masters trained students will complete the program in six semesters. The spring semester of both years will require 4 days of on-site attendance. All courses are web-supported. Students entering the post-professional OTD program with a Master's degree or Baccalaureate degree, with the specified prerequisites (six credit hours), are required to take 28 credit-hours of required courses and a minimum six credit hours of selective courses for a total of 34 credit hours

The curriculum is based on an analysis and synthesis of evidence associated with a) adult learning theory, blended learning approaches, evidence-based practice, and graduate education, b) national and international trends in occupational therapy and healthcare, population health initiatives, evidence-based practice guidelines and knowledge translation and c) research and official documents, philosophical principles, theoretical perspectives, supporting the practice of occupational therapy. Ultimately, the process and intention of the curriculum aims to create a learning experience that causes or allows students to experience a paradigm shift leading to a transformation of one's perception and practice as an occupational therapist (Mezirow & Associates, 2000). Completion of the curriculum confers the degree of Doctor of Occupational Therapy (OTD) to graduates.

Course Descriptions:

(In numerical sequence; hours of lecture, lab, clinical, conference, discussion or seminar may be substituted by one or more learning activities; see course syllabus for details.)

OCCT 5000 Special Topics in OT **1-4 Credits**

The student will be given the opportunity to broaden his or her understanding of his or her role as an occupational therapist by: 1) participating in a variety of learning experiences, including seminars, lectures, public speeches and independent study; and 2) demonstrating the ability to gather information on health-related topics and issues, analyze the information, and present findings or conclusions. Such studies may be directly related to occupational therapy, or they may deal with concept, issues, and trends in health professions. *Prerequisites: None*

OCCT 5110 Applied Reasoning I **1 Credit**

The student will have the opportunity to: 1) Explain the meaning and dynamics of occupation and activity; 2) Understand the effects of client conditions health and occupational performance of the individual; 3) Describe the significance of context and environment to a client's occupational performance; 4) Use clinical reasoning to explain the rationale for and use of compensatory strategies; 5) Evaluate and address the various contexts of health care, education, community, political, and social systems; and 6) Use scholarly literature to make evidence-based decisions. (45 lab hours) *Prerequisites: Acceptance into program.*

OCCT 5113 Applied Reasoning II **1 Credit**

The student will be given the opportunity to: 1) Use standardized and non- standardized assessment tools; 2) Select individual and group occupational therapy interventions; 3) Demonstrate therapeutic use of self; 4) Effectively understand, critique and use scholarly literature to make evidence based decisions; and 5) Demonstrate knowledge and understanding of ethical decision making in professional interactions, and client interventions. (30 lab hours). Prerequisites: Successful completion of prior semester courses.

OCCT 5114 Patient Care Skills **1 Credit**

The student will be given the opportunity to: 1) demonstrate beginning competence in selecting and providing direct occupational therapy interventions; 2) demonstrate basic client safety procedures; and 3) demonstrate the ability to grade and adapt the intervention activity. (30 lab hours). *Prerequisites: Acceptance into program.*

OCCT 5121 Fieldwork Practicum I **1 Credit**

The student will have the opportunity to: 1) Provide therapeutic use of self; 2) Demonstrate personal and professional behavior, sound judgment in regards to safety, and competency in clinical responsibilities; 3) Effectively interact through written, oral and nonverbal communication with the client, family, colleagues and other health providers; 4) Effectively document need and rationale for service provision, occupational therapy interventions and their outcomes; 5) Use standardized and non-standardized screening and assessment tools to determine the need for occupational therapy intervention; 6) Use evaluation findings based on appropriate theoretical approaches, models of practice, and frames of reference; 7) Grade and adapt the clinical environment, tools, materials, occupations and interventions; 8) Observe and conduct occupational therapy interventions and procedures; and 9) Gain understanding of the interdisciplinary, referral, and consultative processes. (40 clinical hours, 8 seminar hours). *Prerequisites: Successful completion of prior semester courses.*

OCCT 5212 Domain: Context & Environment 2 Credits

The student will be given the opportunity to: 1) Demonstrate understanding of how context and environment affects a person's occupational participation, health, and well-being; 2) Identify how context and environment might bias assessment results; and 3) Analyze various contexts of health care, education, community, political, social systems and current policy issues that influence the various contexts for practice of occupational therapy. (15 lecture hours, 30 lab hours). *Prerequisites: Acceptance into program.*

OCCT 5220 Domain: Human Occupation 2 Credits

The student will have the opportunity to: 1) Explain the meaning and dynamics of occupation and activity 2) Explain the role of occupation in the promotion of health and the prevention of disease; 3) Demonstrate knowledge and appreciation of the role of sociocultural, socioeconomic, and diversity factors and lifestyle choices in achievement of health and wellness; 4) Demonstrate task analysis; and 5) Provide therapeutic use of occupation, exercises, and activities. (15 lecture hours, 30 lab hours). *Prerequisites: Acceptance into program.*

OCCT 5221 Domain: Personal Performances 2 Credits

The student will have the opportunity to: 1) Analyze the effects of heritable diseases, genetic conditions, disability, trauma, and injury to the physical and mental health and occupational performance of the individual; and 2) Explain client factors, performance skills, and performance patterns in relation to the practice of occupational therapy. (15 lecture hours, 30 lab hours). *Prerequisites: Acceptance into program.*

OCCT 5222 Musculoskeletal Lab 2 Credits

The student will have the opportunity to: 1) Analyze the effects of musculoskeletal conditions on the physical and occupational performance of the individual, using appropriate assessment procedures and protocols 2) Design, fabricate, apply, fit, and train in orthotic devices; and 3) Demonstrate safe and effective application of superficial thermal and mechanical modalities as a preparatory measure to manage pain and improve occupational performance. (60 hours lab). *Prerequisites: Successful completion of prior semester courses.*

OCCT 5311 OT Process and Foundations 3 Credits

The student will have the opportunity to: 1) Articulate an understanding of the importance of the history and philosophical base of the profession of occupational therapy; 2) Explain the interrelated constructs that describe occupational therapy practice; 3) Apply theories, models of practice, and frames of reference that are used in occupational therapy; and 4) Analyze and discuss how occupational history, occupational therapy theory and the sociopolitical climate influence practice. (30 lecture hours, 30 lab hours). *Prerequisites: Acceptance into program.*

OCCT 5315 Use of Self and Groups 3 Credits

The student will have an opportunity to: 1) Express support for the quality of life, well-being, and occupation of the individual, group, or population; 2) Design and implement group interventions 3) Demonstrate therapeutic use of self; 4) Develop and implement individual intervention strategies; and 5) Apply the principles of the teaching-learning process. (30 hours lecture, 30 hours lab). *Prerequisites: Successful completion of prior semester courses.*

OCCT 5323 Musculoskeletal Intervention 3 credits

The student will have the opportunity to: 1) Use appropriate procedures and protocols when administering assessments to evaluate clients; 2) Document occupational therapy services; and 3) Select occupational therapy interventions and procedures. (45 hours lecture). *Prerequisites: Successful completion of courses from prior semester.*

OCCT 5325 Applied Anatomy & Kinesiology **3 Credits**

The student will be given the opportunity to: 1) Demonstrate basic knowledge and understanding of body structures and functions that support performance skills, 2) Demonstrate and apply activity analysis in areas of occupation, performance skills, performance patterns, activity demands, context(s) and environments, and client factors to formulate an intervention plan; 3) Use standardized assessment tools used to determine the need for occupational therapy intervention, including, but not limited to, manual muscle testing, range of motion, and dynamometry; and 4) Grade and adapt the environment, tools, materials and interventions for client evaluation. (30 lecture hours, 45 lab hours). *Prerequisites: Acceptance into program.*

OCCT 5351 Basic Research Methodology **3 credits**

The student will be given the opportunity to: 1) Articulate the importance of research, scholarly activities, and the continued development of a body of knowledge relevant to the profession of occupational therapy; 2) Effectively locate, interpret, and evaluate information including the quality of research evidence; 3) Use scholarly literature to make evidence-based decisions; 4) Select, apply, and interpret basic descriptive, correlational, and inferential quantitative statistics and code, analyze, and synthesize qualitative data; 5) Understand and critique the validity of research studies, including their design (both quantitative and qualitative) and methodology; and 6) Design a scholarly proposal that includes the research question, relevant literature, sample design, measurement and data analysis. *Prerequisites: None*

OCCT 5352 Evidence of Professional Development **3 credits**

The student will be given the opportunity to: 1) Describe the use of the American Occupational Therapy Association's Standards of Practice, Code of Ethics, and Occupational Therapy Practice Framework as guides for professional interactions, goals, and the practice of occupational therapy; 2) Articulate the importance of evidence based practice and scholarship for the continued development of the occupational therapy profession; 3) Analyze varied roles of the occupational therapist as a practitioner, educator, and researcher; 4) Integrate professional literature within occupational therapy for professional development; 5) Illustrate personal responsibility for planning ongoing professional development to ensure a level of practice consistent with current and accepted standards; 6) Integrate the use of scholarship into professional development; and 7) Evaluate personal and professional abilities and competencies as they relate to responsibilities and career goals. *Prerequisites: None*

OCCT 6110 Applied Reasoning III **1 Credit**

The student will be given the opportunity to: 1) Apply theories that underlie the practice of occupational therapy; 2) Evaluate and use findings to develop occupation-based intervention plans and strategies; 3) Select direct occupational therapy interventions and procedures; 4) Effectively interact through written, oral, and nonverbal communication; 5) Plan for discharge; and 6) Use scholarly literature to make evidence-based decisions. (45 lab hours). *Prerequisites: Successful completion of prior semester courses.*

OCCT 6120 Applied Reasoning IV **1 credit**

The student will be given the opportunity to: 1) Analyze the effects of heritable diseases, genetic conditions, disability, trauma, and injury on physical performance, mental health status, and occupational performance; 2) Apply task analysis to formulate an intervention plan; 3) Use evaluation findings to develop occupation-based intervention plans and strategies, 4) Demonstrate an understanding of health literacy and the ability to educate and train the client, caregiver, family, significant others, and communities to facilitate skills in areas of occupation; 5) Plan for

discharge or the discontinuation of therapy; 6) Effectively locate, understand, critique, and evaluate information, including the quality of evidence; and 7) Use scholarly literature to make evidence-based decisions regarding interventions. (45 lab hours). *Prerequisites: None*

OCCT 6121 Fieldwork Practicum II **1 Credit**

The student will have the opportunity to: 1) Provide therapeutic use of self; 2) Demonstrate personal and professional behavior, sound judgment in regards to safety, and competency in clinical responsibilities; 3) Effectively interact through written, oral and nonverbal communication with the client, family, colleagues and other health providers; 4) Effectively document need and rationale for service provision, occupational therapy interventions and their outcomes; 5) Use standardized and non-standardized screening and assessment tools to determine the need for occupational therapy intervention; 6) Use evaluation findings based on appropriate theoretical approaches, models of practice, and frames of reference; 7) Grade and adapt the clinical environment, tools, materials, occupations and interventions; 8) Observe and conduct occupational therapy interventions and procedures; and 9) Demonstrate competence in interdisciplinary processes including referral and consultation. (40 clinical hours, 10 seminar hours). Prerequisites: Successful completion of coursework from prior semester.

OCCT 6131 Fieldwork Practicum III **1 Credit**

The student will have the opportunity to: 1) Provide therapeutic use of self to develop interviewing and interaction skills with clients with a variety of physical limitations; 2) Demonstrate professional behavior and judgment; 3) Effectively interact through written, oral and nonverbal communication; 4) Use standardized and non-standardized screening and assessment tools; 5) Observe and conduct occupational therapy interventions; and 6) Describe the interdisciplinary, referral, and consultative processes. (10 hours seminar and 40 hours clinical). *Prerequisites: Successful completion of OCCT 5121 and 6121 Fieldwork Practicum I.*

OCCT 6149 Capstone I **1 credit**

The student will be given the opportunity to: 1) Identify area of interest for capstone project; 2) Identify gaps in the knowledge within the area of interest; 3). Identify a preliminary topic for capstone project; 4) Perform a literature search that supports and justifies the project; 5) Formulate a statement conceptualizing his/her contribution to participation in scholarship serving the profession of occupational therapy; 6) Present conceptual basis for proposed capstone project. *Prerequisites: None*

OCCT 6151 Capstone II **1 credit**

The student will be given the opportunity to: 1) Summarize the literature review of the capstone project, with emphasis on the level of evidence of each study; 2) Draft the background of the capstone project, based on the literature review, that includes the conceptual model identified during Capstone Seminar I; 3) Finish the background section with a paragraph justifying the aims of the project; and 4) Identify the remaining components of the capstone project that need to be completed in Capstone Development I. *Prerequisite: OCCT 6150*

OCCT 6207 Experience of Practice **2 Credits**

The student will have an opportunity to: 1) Apply the clinical reasoning process to a variety of cases from diverse populations and cultures; 2) Articulate sound rationale for evaluation/intervention plans and choices made from a variety of frames of reference; 3) Document service delivery functions in various forms; and 4) Engage in simulated interactions with clients and members of the health care team. (60 lab hours). *Prerequisites: acceptance into program.*

OCCT 6210 Psychosocial Intervention **2 credits**

The student will have the opportunity to: 1) Demonstrate knowledge and understanding of the concepts of human behavior; 2) Demonstrate knowledge and appreciation of the role of sociocultural, socioeconomic, and diversity factors and lifestyle choices in contemporary society; 3) Demonstrate an understanding of the ethical and practical considerations that affect the health and wellness needs of those who are experiencing or are at risk for social injustice, occupational deprivation, and disparity in the receipt of services; 4) Express support for the quality of life, well-being, and occupation of the individual, group, or population; 5) Compare and contrast models of practice and frames of reference that are used in psychosocial occupational therapy; 6) Select and provide individual and group occupational therapy interventions; and 7) Demonstrate therapeutic use of self. (30 lecture hours). *Prerequisites: Successful completion of prior semester courses.*

OCCT 6211 Psychosocial Lab **2 credits**

The student will have the opportunity to complete experiential activities designed to complement the lecture segment of the program, and simulate clinically what an occupational therapist would do in a mental health setting. For example, the OT student will have the opportunity to plan OT interventions based on: 1) Concepts of human behavior; 2) The role of sociocultural, socioeconomic, and diversity factors and lifestyle choices in contemporary society; 3) The ethical and practical considerations that affect the health and wellness needs of those who are experiencing or are at risk for social injustice, occupational deprivation, and disparity in the receipt of services; 4) The quality of life, well-being, and occupation of the individual, group, or population; 5) Use models of practice and frames of reference that are used in psychosocial occupational therapy; 6) Select and provide individual and group occupational therapy interventions; and 7) Demonstrate therapeutic use of self. (60 lab hours). *Prerequisites: Successful completion of prior semester courses.*

OCCT 6216 Foundations of Research II **2 Credits**

Students will be given the opportunity to: 1) Utilize national and international resources in making assessment or intervention; 2) Effectively locate, interpret, and evaluate information including the quality of research evidence and the validity of research studies; 3) Understand and use basic descriptive, correlational, and inferential quantitative statistics and code, analyze, and synthesize qualitative data; 4) Demonstrate the skills necessary to design a scholarly proposal that includes the research question, relevant literature, sample, design, measurement, and data analysis; 5) Demonstrate an understanding of the process of locating and securing grants; and 6) Participate in scholarly activities and demonstrate skills necessary to write a scholarly report in a format for presentation or publication. (15 lecture hours, 30 hours lab). *Prerequisites: Successful completion of prior semester courses.*

OCCT 6219 Child Practice Lab **2 Credits**

The student will have the opportunity to: 1) apply knowledge of child development, 2) administer assessments for evaluation of a child's performance; 3) apply preventive, remedial, and compensatory intervention strategies to promote performance; and 4) apply service delivery models. (60 lab hours). *Prerequisites: Successful completion of prior semester courses.*

OCCT 6221 Interventions for Neurological Practice **2 Credits**

The student will have an opportunity to: 1) Analyze the effects of heritable diseases, genetic conditions, disability, trauma, and injury to the physical and mental health and occupational performance of the individual; 2) Articulate procedures for evaluation of clients with neurological conditions; 3) Use evaluation findings based on appropriate theoretical approaches, models of

practice, and frames of reference; 4) Articulate need and process for referral to specialists both internal and external to the profession; and 5) Describe how to monitor, reassess, terminate, and document occupational therapy services. (30 lecture hours). *Prerequisites: Successful completion of prior semester courses.*

OCCT 6222 Selective I **2 Credits**

The student will be given the opportunity to: 1) describe special or advanced techniques and processes of occupational therapy practice; or 2) demonstrate occupational therapy management of patients/clients with specific conditions; or 3) assess occupational therapy practice in varied applications and markets. (30 seminar hours). *Prerequisites: Permission of the instructor.*

OCCT 6225 Legal and Ethics **2 Credits**

The student will be given an opportunity to: 1) identify and explain the ethical principles and legal rights that support occupational therapy policies, guiding documents, and practices; 2) differentiate the various national and state credentialing and regulating bodies that govern occupational therapy; and 3) demonstrate sound approaches to resolving ethical dilemmas in occupational therapy practice. (30 hours lecture). *Prerequisites: Successful completion of prior semester courses.*

OCCT 6226 Neurological Lab **2 Credits**

The student will have an opportunity to: 1) Select, administer and interpret appropriate assessment tools used for persons with neurological conditions; 2) Use evaluation findings based on appropriate theoretical approaches, models of practice, and frames of reference to develop occupation-based intervention plans and strategies for persons with neurological conditions; 3) Provide training in self-care, self-management, health management and maintenance, home management, and community integration; 4) Provide development, remediation, and compensation for physical, mental, cognitive, perceptual, neuromuscular, behavioral skills, and sensory functions; and 5) Effectively interact through written, oral, and nonverbal communication. (60 lab hours). Prerequisites: Successful completion of prior semester courses.

OCCT 6249 Capstone III **2 credits**

The student will be given the opportunity to: 1) Design and implement a project illustrating a link between evidence-based practice, occupational therapy principles, and an existing or emerging area of practice; 2) Demonstrate proficiency in appraising and applying the best evidence for evaluation, intervention and/or monitoring outcomes of occupational performance; 3) Articulate relevance of Capstone Project to advancing occupational therapy principles and practice to individuals, organizations, and/or communities; 4) Present a proposal of Capstone Project, communicating the process, expected outcomes and areas for future development that meets standards for professional dissemination; and 5) Provide peer review feedback for collaboration and mentoring. *Prerequisites: OCCT 6150 and 6151*

OCCT 6251 Capstone II IV **2 credits**

The student will be given the opportunity to: 1) Appraise own demonstration of practice/ clinical scholarship, professional growth, leadership and/or advocacy through completion of Capstone Project; 2) Complete a professional project that disseminates knowledge; and 3) Present work in a formal manner of dissemination. *Prerequisites: OCCT 6150, 6151, and 6250*

OCCT 6253 Outcome Measures for Practice **2 credits**

The student will be given the opportunity to: 1) Determine factors affecting health outcomes; 2) Analyze psychometric properties of outcome measures; 3) Interpret results of outcome measures; 4) Select and administer appropriate outcome measures to address a specific clinical case; 5) Apply outcome measures for evidence based intervention; 6) Analyze outcome measurement as a determinant of health policy; and 7) Disseminate knowledge and use of outcome measures. *Prerequisite: OCCT 6350 and 6351*

OCCT 6256 Leadership **2 credits**

The student will be given the opportunity to: 1) Identify personal leadership strengths through self-assessment; 2) Understand and explain the situational, transformational, and adaptive leadership theories; 3) Illustrate significant traits and behaviors of historical leaders; 4) Identify and describe the four basic phases of team building; 5) Develop short-term and long-term leadership goals and a personal leadership plan to achieve those goals; 6) Develop a team mission statement and goals; and 7) Utilize outcome measures to examine leadership initiatives. *Prerequisite: OCCT 6354*

OCCT 6308 Practice with Children **3 Credits**

The student will have the opportunity to: 1) demonstrate knowledge and understanding of human development; 2) analyze effects of variety of conditions on physical and mental health and occupational performance for children and adolescents; 3) use theories and frames of reference to inform evaluation and intervention; 4) evaluate the need for occupational therapy intervention using standardized and non-standardized tools; 5) refer to specialists internal and external to the profession; 6) provide therapeutic intervention based on evidence; 7) choose, design, apply and train users in assistive technologies and devices; and 8) provide management of feeding, eating, and swallowing, and 9) document OT services. (30 hours lecture, 30 hours lab). *Prerequisites: Successful completion of prior semester courses.*

OCCT 6313 Foundations of Research I **3 Credits**

Students will be given the opportunity to: 1) Interpret criterion referenced and norm referenced standardized test; 2) Utilize national and international resources in making assessment or intervention; 3) Articulate the importance of research, scholarly activities, and the continued development of a body of knowledge relevant to the profession of occupational therapy; 4) Effectively locate, interpret, and evaluate information including the quality of research evidence and the validity of research studies; 5) Understand and use basic descriptive, correlational,

and inferential quantitative statistics and code, analyze, and synthesize qualitative data; and 6) Participate in scholarly activities and demonstrate skills necessary to write a scholarly report in a format for presentation or publication. (30 lecture hours, 45 lab hours). *Prerequisites: Successful completion of prior semester courses.*

OCCT 6317 Specialized Practice **3 Credits**

The student will be given the opportunity to: 1) Perform evaluations of occupational performance using standardized and non-standardized assessment tools 2) Interpret evaluation data; 3) Provide preparatory activities, occupation-based interventions, therapeutic exercises, and purposeful activities; 4) Apply ergonomic principles and environmental modification strategies to both work and home environments; 5) Articulate principles of and be able to design, fabricate, apply, fit, and train in assistive technologies and devices; and 6) Provide recommendations and training in techniques to enhance functional mobility and community access. (30 hours lecture, 30 hours lab). *Prerequisites: None*

OCCT 6318 Learning and Cognition **3 Credits**

The student will be given the opportunity to: 1) Use theories related to cognitive functioning to guide and inform evaluation and intervention with various types of clients in a variety of practice contexts and environments to analyze meaningful occupation outcomes; 2) Use standardized and non-standardized screening and assessment tools to determine the need for occupational therapy intervention; 3) Use evaluation findings to develop occupation-based intervention plans and strategies; 4) Select and provide direct OT interventions for learning and cognition issues; and 5) Document occupational therapy services for learning and cognition issues. (30 lecture hours and 30 lab hours). *Prerequisites: Successful completion of prior semester courses.*

OCCT 6319 Foundations for Neurological Practice **3 Credits**

The student will have an opportunity to: 1) Demonstrate knowledge and understanding of neurological structures and function, and analyze the effects of heritable diseases, genetic conditions, disability, trauma and injury to the physical health and occupational performance of the individual; 2) Use theories and frames of reference to guide and inform evaluation; and 3) Use standardized and nonstandardized screening and assessment tools to determine the need for occupational therapy intervention and consider factors that might bias assessment results. (30 lecture hours and 30 lab hours). *Prerequisites: Successful completion of prior semester courses.*

OCCT 6330 OT Management **3 Credits**

The student will have the opportunity to: 1) Articulate the unique nature of occupation as viewed by the profession of occupational therapy; 2) Integrate current social, economic, political, geographic, and demographic factors to promote policy development and the provision of occupational therapy services; 3) Articulate the role and responsibility of the practitioner to advocate for changes in service delivery policies, to effect changes in the system, and to identify opportunities in emerging practice areas; 4) Analyze the trends in models of service delivery; 5) Describe and discuss the impact of contextual factors on the management and delivery of occupational therapy services; 6) Describe the systems and structures that create federal and state legislation and regulations and their implications and effects on practice; 7) Demonstrate knowledge of various reimbursement systems; 8) Demonstrate the ability to plan, develop, organize, and market the delivery of services; 9) Demonstrate the ability to design ongoing processes for quality improvement; and 10) Describe strategies to assist the consumer in gaining access to occupational therapy services. (45 lecture hours). *Prerequisites: None*

OCCT 6350 Fundamentals of Evidence Based Practice **3 credits**

The student will be given the opportunity to: 1) Describe the process of evidence based practice; 2) Identify barriers to successful implementation of evidence-based therapy recommendations; 3) Develop strategies to facilitate evidence based practices in a clinical setting; 4) Develop clear, concise clinical questions using the PICO/PIO format; 5) Construct and execute search strategies using Internet technology to identify and locate the best evidence for selected diagnoses and interventions; 6) Use the hierarchy of evidence and appraisal tools to screen articles for their usefulness for a given clinical question; 7) Locate clinical outcome instruments/ assessment tools demonstrating acceptable psychometric properties for a specific clinical scenario; 8) Locate interventions for clinical problems, diagnoses, and/or impairments that are based on the best available evidence; and 9) Recommend occupational therapy assessments and interventions for a defined client population by applying, integrating, and synthesizing base knowledge, clinical experiences, and the principles of evidence-based practice. *Prerequisites: None*

OCCT 6351 Research Methodology for Practice **3 credits**

The student will be given the opportunity to: 1) Differentiate types of research based upon study design and the level of evidence hierarchy; 2) Interpret and explain results of common statistical analyses such as t-tests, correlation coefficients, statistical regression analyses, analysis of variance, etc.; 3) Choose appropriate statistical methods to analyze a quantitative research questions; 4) Explain when to use non parametric statistics; 5) Describe the use and process of a variety of qualitative inquiry to answer occupational therapy related questions; 6) Design a mixed method study to answer an occupational therapy related research question; 7) Compare and contrast validity, reliability, specificity and sensitivity and their impact on scientific rigor; and 8) Demonstrate management of data collection in a clinical setting. *Prerequisites: OCCT 6350*

OCCT 6354 Theory for Practice **3 credits**

The student will be given the opportunity to: 1) Analyze and discuss how occupational therapy history, occupational therapy theory, and the sociopolitical factors influence practice; 2) Understand and use occupational therapy theories, models of practice, and frames of reference to guide and inform practice; 3) Compare and contrast the strengths and limitation of occupational therapy theories and models of practice in different contexts; 4) Apply theoretical constructs to practice with various types of clients in a variety of practice contexts and environments, including population-based approaches, to analyze and effect meaningful occupation outcomes; 5) Articulate the process of theory development in occupational therapy and its desired impact and influence on society; and 6) Complete a culminating project that relates theory to practice and demonstrates synthesis of advance knowledge in a selected practice area. *Prerequisites: None*

OCCT 6355 Program Development **3 credits**

Upon successful completion of this course, the student will be able to: 1) Understand sociopolitical issues influencing program development, 2) Identify and develop program ideas, 3) Complete a needs assessment for a program, 4) Confirm feasibility of program; and 5) Develop a theory based program. *Prerequisites: OCCT 6350, 6354, and 6351*

OCCT 6356 Current Issues and Trends in Occupational Therapy **3 credits**

The student will be given the opportunity to: 1) Identify influence of economy, population demographics, education structure, sociopolitical issues, and technological advances on current practice; 2) Identify practice trends; 3) Evaluate how current legislation at the state and national level affect s occupational therapy practice; 4) Appraise means of advancing the occupational therapy profession; and 5) Defend a view on how the occupational therapy profession can best progress in the current context. *Prerequisites: OCCT 6350, 6354, 6256, 6253, 6351, and 6355*

OCCT 6357 Healthcare Policy and Ethics **3 credits**

The student will be given the opportunity to: 1) Apply basic management theories, principles, and practices to health care delivery; 2) Understand reimbursement sources and billing regulations/procedures; 3) Examine the legal and legislative factors that impact health care delivery; 4) Appraise situations in terms of risk management and quality improvement issues in response to policy, regulatory agencies, and reimbursement and compliance standards; 5) Determine the alternative funding resources available within the community for health care practitioners and clients; 6) Complete a strategic plan to design OT programs and evaluation procedures for specific clinical settings; as well as, to design programs that will address society's changing populations and community needs; 7) Identify strategies for staff development and evaluation; 8) Analyze and determine ethical decisions related to occupational therapy practice; 9) Provide leadership for negotiation in health care institutions, communities, professional associations and regulatory review boards; and 10) Demonstrate active involvement in professional development, leadership, and advocacy. *Prerequisites: OCCT 6350, 6354, and 6256*

OCCT 6358 Education Theory in Academic and Clinical Practice 3 credits

The student will be given the opportunity to: 1) Analyze pedagogical learning theories and discuss their application in an adult learning context; 2) Incorporate Bloom's taxonomy in creating educational material; 3) Apply principles of learning styles to education design; 4) Analyze the contribution of motivation to learning; 5) Contrast teaching tools and their application to learning activities; 6) Construct learning experiences applying learning theories, aligning to objectives, and Bloom's taxonomy; and 7) Design an educational module that employs latest evidence supporting adult learning and incorporating educational theory. *Prerequisites: None*

OCCT 6359 Health Promotion and Wellness 3 credits

The student will be given the opportunity to: 1) Identify the principles of wellness and health promotion from a personal, client, and community perspective; 2) Select appropriate screening tools to assess physical, mental, and social wellness; 3) Propose prevention and intervention strategies for self, patients/clients, and a community population; 4) Educate clients on nutrition and exercise as an intervention tool for optimizing health and wellness; and 5) Understand the effects of disease process on the health and wellness of clients served. *Prerequisites: OCCT 6350*

OCCT 6360 Contemporary Practice with Children 3 credits

The student will be given the opportunity to: 1) Identify current trends and knowledge gaps in pediatric practice; 2) Examine literature pertaining to specific practice area relevant to student's practice; and 3) Generate practice guidelines related to identified clientele. *Prerequisites: None*

OCCT 6361 Contemporary Practice with Adults 3 credits

The student will be given the opportunity to: 1) Identify current trends and knowledge gaps in adult practice; 2) Examine literature pertaining to specific practice area relevant to student's practice; and 3) Generate practice guidelines related to identified clientele. *Prerequisites: None*

OCCT 6900 Level II Fieldwork 9 Credits

The student will have the opportunity to: 1) Articulate the unique nature of occupation as viewed by the profession of occupational therapy; 2) Integrate current social, economic, political, geographic, and demographic factors to promote policy development and the provision of occupational therapy services; 3) Articulate the role and responsibility of the practitioner to advocate for changes in service delivery policies, to effect changes in the system, and to identify opportunities in emerging practice areas; 4) Analyze the trends in models of service delivery; 5) Describe and discuss the impact of contextual factors on the management and delivery of occupational therapy services; 6) Describe the systems and structures that create federal and state legislation and regulations and their implications and effects on practice; 7) Demonstrate knowledge of various reimbursement systems; 8) Demonstrate the ability to plan, develop, organize, and market the delivery of services; 9) Demonstrate the ability to design ongoing processes for quality improvement; and 10) Describe strategies to assist the consumer in gaining access to occupational therapy services. (480 clinical hours per fieldwork rotation). *Prerequisites: None*

To view a list of course equivalencies for numerous Texas colleges and universities, please log on to: http://shp.utmb.edu/OccupationalTherapy/ProspectiveStudents/Prerequisites.asp

For more information on the profession, please see: http://www.aota.org/ and http://www.tota.org/.

Department of Physical Therapy

Chair & Professor
- Carolyn J. Utsey, PT, Ph.D.

Associate Professor
- Steven Fisher, PT, Ph.D., GCS
- Lynne Hughes, PT, Ph.D., OCS, MTC
- Mansoo Ko, Ph.D.
- Janna McGaugh, PT, Sc.D., OCS, COMPT
- Helen Rogers, PT, Ph.D.
- Dana Wild, PT, Ph.D., PCS

Associate Professor, Instruction
- Michael Furtado, PT, DPT, NCS
- Rebecca Galloway, PT, Ph.D., GCS, CEEAA

Assistant Professor
- Rodney Welsh, Ph.D, PT, OTR

Assistant Professor, Instruction
- Laura W. Farroni, PT, DPT, PCS
- Adrianna Laprea, PT, DPT, GCS
- Laura Oppermann, PT, DPT

Clinical Professor
- Brent Masel, M.D.

Clinical Assistant Professor
- Jeremy Bourgeois, PT, DPT, NCS

Clinical Instructor
- Karen Chapman, PT, DPT
- Catherine Elton, PT, MPT
- Rhonda Kurtz, PT, DPT, CWS

Adjunct Professor
- Victor Sierpina, M.D.

Adjunct Assistant Professor
- Christy Gilley, PT, DPT
- Kimbri Long, PT, DPT
- Sarah Dominique Meek, PT, DPT
- Annalisa Na, Ph.D, PT, DPT, OCS
- Susan Wittjen, PT, Ph.D.

Professor Emeritus
- Gertrude A. Freeman, PT, M.A.
- Kurt A. Mossberg, PT, Ph.D.

Associate Professor Emeritus
- Miles Reich, PT, M.S.

THE PROFESSION

Physical therapy is a health profession that seeks to return patients to the highest possible degree of personal independence. The physical therapist works with patients with disabilities of the muscular, neurological, skeletal, circulatory, integumentary, or respiratory systems. Physical therapists are also involved in prevention programs to assist people of all ages in maintaining optimal health and physical fitness. The physical therapist plans and administers individualized treatment programs that are designed to restore functional movement, relieve pain, promote healing and recovery, and, when necessary, help patients adapt to permanent disability. The physical therapist plans the treatment program after examining the patient and his or her medical record, and following consultation with other health care providers. Tests, observation, and interviews provide vital information about a patient's strength, reflexes, sensory perception, posture, gait, cardiopulmonary endurance, and daily living activities.

After evaluation, the physical therapist treats the patient through various forms of exercise and physical modalities, including heat, cold, ultrasound, electrical stimulation, assistive devices, and manual techniques. The physical therapist exercises judgment in interpreting test results to plan and adjust treatment. Successful physical therapy may take weeks, months, or years, depending on the extent of injury or disability and the patient's motivation.

Individuals interested in a health field will find physical therapy a challenging and satisfying profession. There are a wide range of employment settings, including hospitals, rehabilitation centers, private practice offices, community public health services, sports medicine centers, nursing homes, and school systems. Opportunities also can be found in administration, teaching, and research.

The curriculum in physical therapy includes instruction in the biological and behavioral sciences, and in the concepts and skills of physical therapy. Its goal is the graduation of qualified physical therapists prepared to assist in meeting the health needs of society and to continue their own professional and personal growth.

THE GRADUATE PHYSICAL THERAPIST

The responsibilities of a graduate physical therapist are varied. Within the framework of a single position, the recent graduate is often called upon to serve not only as a provider of patient services, but also as administrator, teacher, program planner, and consultant.

The graduate physical therapist plans and administers treatment programs for patients to restore function, relieve pain, and prevent disability following disease, injury, or loss of a body part. The treatment program is determined by the physical therapist through examination and evaluation of the patient and the patient's medical record and in consultation with other health care practitioners.

Graduate physical therapists are eligible for licensure in any state by successfully passing the licensure examination. Licensure is accepted proof of competency to practice physical therapy as a professional.

ESSENTIAL FUNCTIONS

It is the policy of the University of Texas Medical Branch (UTMB Health) at Galveston to comply with the Americans with Disabilities Act, Section 504 of the Rehabilitation Act of 1973, and state and local requirements regarding students and applicants with disabilities. Under these laws, no otherwise qualified and competitive individual with a disability shall be denied access to or participation in services, programs, and activities of UTMB Health-Galveston solely on the basis of the disability.

The purpose of this document is to specify for the Department of Physical Therapy the required essential functions in addition to the essential functions stated in the Institutional UTMB policy.

Reference: UTMB policy "Students with Disabilities: An Institutional Policy. Section IV

All individuals who apply for admissions to programs within the UTMB schools, including persons with disabilities, must be able to perform essential functions either with or without accommodations. Essential functions are the basic activities that a student must be able to complete. Any student applicant who has met the necessary prerequisites and who can perform the essential functions of the program in question, either with or without reasonable accommodations, will be considered for admission. Candidates for degrees at UTMB must be able to perform the following essential functions with or without accommodations. Each program will further elaborate on these general descriptions so that they are congruent with the professional roles toward which each program educates:

1. Observation (to include the various sensory modalities): Candidates must be able to accurately observe close at hand and at a distance to learn skills and to gather data (e.g., observe an instructor's movements, a patient's gait or verbal response, a chemical reaction, a microscopic image, etc.). Candidates must possess functional use of the senses that permit such observation.

   Specified essential functions for the Department of Physical Therapy:

   I. Classroom setting:

   To achieve the required competencies in the classroom setting, physical therapy students must perceive, assimilate, and integrate information from a variety of sources. These sources include oral presentation, printed material, visual media and live demonstrations.

   II. Physical Therapy Laboratories:

   Physical therapy laboratories provide students with the opportunity to view demonstration, evaluate, practice with medical devices and therapeutic equipment, and perform simulated clinical procedures.

   III. Clinical education:

   Students must perform patient evaluations utilizing visual, auditory, and palpatory (touch) sensory systems.

2. Communication: Candidates must be able to communicate effectively and efficiently. Candidates must be able to process and comprehend written material.

   Specified essential functions for the Department of Physical Therapy:

   I. Classroom setting:

   Students must participate in classroom discussions, give oral reports, submit written reports, and pass written and practical examinations of various formats.

   II. Physical Therapy Laboratories:

   In addition to the cognitive skills required in the classroom, students must demonstrate psychomotor skills in manipulating patients and equipment, as well general laboratory behaviors such as team building and interpersonal communications.

   III. Clinical education:

   Clinical education in physical therapy involves the application of skills acquired in the classroom and laboratories to actual patients. Professional behaviors required for clinical training include constructive responses to situations involving emergencies, stress, frustrating situations and complex interactions with other members of the health care team, patients, and their families.

3. Psychomotor Skills: Candidates must have sufficient motor capacities and mobility to safely execute the various tasks and physical maneuvers that are required within each program. Candidates must be able to display motor functioning sufficient to fulfill the professional roles toward which each program educates.

   Specified essential functions for the Department of Physical Therapy:

   I. Classroom setting:

   Students must participate in classroom discussions, give oral reports, submit written reports, and pass written and practical examinations of various formats.

II. Physical Therapy Laboratories:
In addition to the physical capabilities for classroom work, the laboratories require students, with assistance, to: assemble equipment, be stable while using both hands to perform procedures, perform fine motor skills, and perform procedures requiring considerable strength. Examples of the latter procedures include: turning and moving patients, transferring patients, and providing manual resistance to patients' extremities during exercise.

III. Clinical education:

Clinical education in physical therapy involves the application of skills acquired in the classroom and laboratories to actual patients.

4. Intellectual and Cognitive Abilities: Candidates must be able to measure, calculate, reason, analyze, synthesize, integrate, remember and apply information. Creative problem-solving and clinical reasoning require all of these intellectual abilities. In addition, specific programs require that candidates must be able to comprehend three-dimensional relationships and understand the spatial relationships of structures.

   Specified essential functions for the Department of Physical Therapy:

   I. Classroom setting:
   To achieve the required competencies in the classroom setting, physical therapist students must perceive, assimilate, and integrate information from a variety of sources.

   II. Physical Therapy Laboratories:
   Physical therapy laboratories provide students with the opportunity to perform simulated clinical procedures. To satisfy laboratory requirements, students must perform all procedures without critical error. This requires high levels of cognitive, perceptual, and psychomotor function.

   III. Clinical education:
   Clinical education in physical therapy involves the application of skills acquired in the classroom and laboratories to actual patients. In addition to the cognitive skills required in those settings, students must demonstrate skills in patient assessment, clinical reasoning, problem-solving, synthesizing care plans, trouble-shooting equipment, and educating and supervising support personnel.

5. Professional and Social Attributes: Candidates must exercise good judgment and promptly complete all responsibilities required of each program. They must develop mature, sensitive, and effective professional relationships with others. They must be able to tolerate taxing workloads and function effectively under stress. They must be able to adapt to changing environments, display flexibility, and function in the face of uncertainties and ambiguities. Concern for others, interpersonal competence, professionalism, and motivation are requisite for all programs.

   Specified essential functions for the Department of Physical Therapy:

   I. Classroom setting:
   As above.

   II. Physical Therapy Laboratories:
   As above.

   III. Clinical education:
   As above.

6. Ethical Standards: A candidate must demonstrate professional attitudes and behaviors and must perform in an ethical manner in dealings with others. All programs require personal integrity and the adherence to standards that reflect the values and functions of the profession. Many programs also require the honoring of codes of ethics.

Specified essential functions for the Department of Physical Therapy:

In addition to the code of ethics stated in the general policy of UTMB, students are also required to honor the physical therapy profession's code of ethics. Additionally:

I. Classroom setting:

Students must also demonstrate respect for others, empathy, responsibility, efficiency, integrity and initiative.

II. Physical Therapy Laboratories:

Students must also demonstrate respect for others, empathy, responsibility, efficiency, integrity and initiative.

III. Clinical education:

Students must also demonstrate respect for others, empathy, responsibility, efficiency, integrity and initiative.

PROGRAM PHILOSOPHY AND CURRICULUM MODEL

The profession of physical therapy is constantly changing with the emergence of new scientific evidence, technological advances, diverse practice settings, specialized health care markets, cost-effective management systems, and more informed consumers. With these changes in mind, it is the philosophy of this department to provide its graduates with a quality education in an environment that fosters innovation, collaboration, and respect. We believe that all physical therapists should strive to achieve their highest potential in order to provide state-of-the-art patient care that requires sound clinical reasoning, a blend of manual and technological expertise, skilled communication, and the ability to adapt to future practice patterns. In addition, we strive to graduate physical therapists that are committed to lifelong learning and service to their profession and their community.

This philosophy guides the curriculum, which consists of traditional and nontraditional learning experiences that are integrated around recurring themes related to the multiple roles of the physical therapist in patient care, health promotion, research, management, education, and community service. These themes include: a holistic view of health care; evidence-based practice; a functional orientation to treatment goals and outcomes assessment; interprofessional collaboration; effective communications, resource management, and marketing strategies; and patient/public empowerment and advocacy. Learning experiences occur in classroom, laboratory, clinical, and community settings and are designed to meet the needs of adult learners who have diverse learning styles. Faculty use a variety of teaching strategies including lectures, laboratory demonstrations and practice, computerized instruction, small-group tutorials, journal clubs, self-directed projects, and service-learning to accomplish curricular goals and objectives.

The professional curriculum builds on a general education that incorporates prerequisite courses in the biological and physical sciences, social sciences, management, humanities, and communications. Successful completion of a baccalaureate degree demonstrates the student's ability to accumulate and integrate a breadth of information within a focused area of study. In the first year of the professional curriculum, courses in human development, gross anatomy, neuroscience, movement science, kinesiology, pathology, research methodology, legal and ethical principles, and exercise physiology form the basis for understanding the art and science of physical therapy. Basic therapeutic evaluation and intervention techniques are also presented during the first year. Within these courses, students are oriented to the model of disablement, the Guide to Physical Therapist Practice, and the physical therapist's role within the continuum of health care. These fundamental courses are followed by problem-oriented clinical courses that reflect the types of movement dysfunction that are commonly diagnosed and treated by physical therapists. Advanced therapeutic techniques related to the management of musculoskeletal, cardiopulmonary, neuromuscular, and integumentary dysfunctions are presented in these courses along with pertinent information regarding medical, surgical, and complementary approaches to patient care.

Patient cases are used to apply the knowledge and skills throughout the curriculum. Increasingly complex problems require a synthesis of knowledge and skills learned across the curriculum. Cases are frequently presented in small-group tutorials that are primarily instructor-directed in the first year of the curriculum and become student-directed during the second year. Didactic learning is reinforced by a full-time clinical experience at the beginning of the second year of the program and a clinical internship at the end of the curriculum.

Analytical and problem-solving skills are developed throughout the didactic and clinical portions of the curriculum. Because graduates are expected to be participants as well as consumers of research, students also design and complete a case report during their final year of study. The curriculum culminates with the formal presentation of these case projects.

Students are mentored in their professional development throughout the program by academic and clinical faculty. The faculty model professional behavior by interacting with their peers, other health care colleagues, and the public through participation in professional organizations and conferences, continuing education courses, health promotion activities, research studies, legislative activities, and altruistic community service. Graduates of the physical therapy program are expected to strive toward a comparable level of professionalism.

OBJECTIVES OF THE CURRICULUM

The physical therapy curriculum provides learning experiences to assist students in developing competencies and attitudes in order to:

1. Accept responsibility as health professionals.
2. Participate in and contribute to the profession through active involvement and scholarship.
3. Practice in an ethical and legal manner.
4. Assess patients/clients from any age, gender, or cultural group at any stage of the health care continuum; treat or refer them as appropriate.
5. Plan, implement, and modify a treatment program as needed to ensure a safe and effective outcome.
6. Plan, design, and participate in programs of prevention and health promotion.
7. Participate in personal/professional growth and development throughout their careers.
8. Identify and prioritize problems and take appropriate action toward resolution.
9. Utilize sound management and business practices in the marketing and provision of physical therapy services.
10. Collaborate with other health professionals, regulators, and payers to optimize the delivery of health care services.

THE PROFESSIONAL CURRICULUM

This professional curriculum is fully accredited by the Commission on Accreditation in Physical Therapy Education. Upon satisfactory completion of the program, students are eligible to take the national licensure examination, which is required in order to practice as a professional physical therapist.

The traditional physical therapy curriculum, leading to a Doctor of Physical Therapy (DPT) degree, is 9 semesters in length. Matriculation is at the beginning of the fall semester of each academic year. During the professional program, the student is enrolled in four structured and supervised clinical education experiences. These clinical experiences are scheduled in UTMB Hospitals and off-campus facilities. Additionally, there may be opportunities for international rotations. Relocation and travel are at the student's expense.

The Bridge PTA to DPT program is designed for the working PTA. This program is 6 semesters in length. During the professional program, the student is enrolled in four structured and supervised clinical education experiences. Like the traditional program, clinical experiences

may be scheduled locally, throughout the state, nationally and upon specific circumstances internationally.

Upon completion of all curriculum requirements with a minimum GPA of 3.0, the degree of Doctor of Physical Therapy is conferred. Graduates of the program are eligible to sit for the national licensing exam for physical therapists administered by the Federation of State Boards of Physical Therapy Examiners.

All states regulate physical therapy practice. Conviction of a felony offense may result in ineligibility to receive licensure in Texas. Each case is considered on an individual basis by the state licensing agency. For further information contact:

Executive Council for Physical Therapy and Occupational Therapy Examiners
333 Guadalupe, Suite 2–510
Austin, TX 78701–3942

MASTERS OF SCIENCE IN HEALTH PROFESSIONS WITH SPECIALTY IN PHYSICAL THERAPY

The Master of Science in Health Professions – Physical Therapy is a distance learning program designed to advance education and training for bachelor level physical therapists and physical therapist assistants with a baccalaureate degree. The distance learning program is predominantly a web-based curriculum, and the student selects the clinical practice, education, or administrative track. A Master of Science degree will be awarded after completion of the 35 credit hours of coursework that includes 15 credits of core curriculum and 20 credits of guided practicum work.

ACADEMIC PERFORMANCE STANDARDS

The following standards apply to students matriculating in the DPT degree program. These standards supersede the standards that are published in previous editions of the UTMB General Information Catalog and the SHP Bulletin.

The traditional physical therapy curriculum consists of 9 semesters of doctoral-level course work. The Bridge PTA to DPT curriculum consists of 6 semesters of doctoral-level course work. Students are expected to maintain a minimum GPA of 3.0 during each semester/term to participate in clinical education experiences and to qualify for the DPT degree. Please see the "Academic Progress" section of this Bulletin for additional information regarding academic performance standards, scholastic probation and dismissal policies.

PROFESSIONAL COURSE OF STUDY

The professional course of study is as follows for those students in the Traditional DPT program:

The professional course of study includes basic and advanced courses in physical therapy and clinical practice. The courses are sequential in nature, and the sequence cannot be altered without the written consent of the department chair.

The professional course of study is as follows for those students in the traditional entry-level program.

Semester I (Fall I)

PHYT 6110	Surface Anatomy	1
PHYT 6222	Lifespan Development	2
PHYT 6311	Clinical Pathology for Rehabilitation Specialists	3
PHYT 6418	Human Anatomy for Rehabilitation Professionals	4
PHYT 6441	Clinical Examination in Physical Therapy	4
	SEMESTER TOTAL	**14**

Semester II (Spring I)

PHYT 6216	Exercise Physiology	2
PHYT 6220	Evidence Based Practice in Physical Therapy	2
PHYT 6313	Neuroscience for Health Professionals	3
PHYT 6314	Movement Science I	3
PHYT 6343	Exercise & Manual Techniques in Physical Therapy	3
	SEMESTER TOTAL	**13**

Semester III (Summer I)

PHYT 6223	Professional Issues in Health Care and Physical Therapy	2
PHYT 6262	Diagnosis and Management of Integumentary Dysfunction	2
PHYT 6315	Movement Science II	3
PHYT 6442	Physical Therapy Functional Training	4
PHYT 6463	Diagnosis & Management of Cardiovascular & Pulmonary Dysfunction	4
	SEMESTER TOTAL	**15**

Semester IV (Fall II)

PHYT 6285	Medical Diagnostics for the Physical Therapist	2
PHYT 6286	Pharmacology for Rehabilitation Specialists	2
PHYT 6344	Physical Agents and Pain Management in Physical Therapy	3
PHYT 6581	Clinical Education I	5
	SEMESTER TOTAL	**12**

Semester V (Spring II)

PHYT 6224	Medical Spanish for Rehabilitation Specialists	2
PHYT 6326	Management & Health Systems in Physical Therapy	3
PHYT 6464	Diagnosis and Management of Neuromuscular Dysfunction I	4
PHYT 6465	Diagnosis and Management of Musculoskeletal Spinal Dysfunction	4
	SEMESTER TOTAL	**13**

Semester VI (Summer II)

PHYT 6225	Psychosocial Aspects of Disability	2
PHYT 6263	Advanced Orthotics & Prosthetics	2
PHYT 6390	Diagnosis and Management of Lower Extremity Mucsculoskeletal Dysfunction	3
PHYT 6467	Diagnosis and Management of Neuromuscular Dysfunction II	4
	SEMESTER TOTAL	**11**

Semester VII (Fall III)

PHYT 6302	Physical Therapy Differential Diagnosis	3
PHYT 6290	Diagnosis and Management of Upper Extremity Mucsculoskeletal Dysfunction	2
PHYT 6368	Diagnosis and Management of Developmental Dysfunction	3
	SEMESTER TOTAL	**8**

Semester VIII (Spring III)

PHYT 6682	Clinical Education II	6
	SEMESTER TOTAL	**6**

Semester IX (Summer III – 12 week clinical rotation)

PHYT 6227	Evidence Based Seminar	2
PHYT 6684	Clinical Education III	6
	SEMESTER TOTAL	**8**

TOTAL 100

The professional course of study is as follows for those students in the Bridge PTA to DPT program.:

Semester I (Summer I)

PHYT 6184	Bridge Clinically Applied Neuroanatomy	1
PHYT 6250	Bridge Development Through the Lifespan	2
PHYT 6251	Bridge Professional Issues in Health Care and Physical Therapy	2
PHYT 6252	Bridge Evidence Based Practice	2
PHYT 6350	Bridge Competencies in Physical Therapy/Lab	3
PHYT 6352	Bridge Neuroscience	3
	SEMESTER TOTAL	**13**

Semester II (Fall I)

PHYT 6180	Bridge Clinical Applications I	1
PHYT 6206	Bridge Human Anatomy	2
PHYT 6253	Bridge Pharmacology for Rehabilitation Specialists	2
PHYT 6260	Bridge Diagnosis and Management of Integumentary Dysfunction	2
PHYT 6353	Bridge Movement Science 1	3
PHYT 6354	Bridge Clinical Pathology	3
	SEMESTER TOTAL	**13**

Semester III (Spring I)

PHYT 6254	Bridge Medical Diagnostics	2
PHYT 6256	Bridge Clinical Reasoning I	2
PHYT 6280	Bridge Clinical Education in Physical Therapy I	2
PHYT 6356	Bridge Movement Science II/Lab	3
PHYT 6363	Bridge Cardio Pulmonary Physical Therapy	3
PHYT 6461	Bridge Diagnosis and Management of Spine Dysfunction	4
	SEMESTER TOTAL	**14**

Semester IV (Summer II)

PHYT 6257	Bridge Diagnosis and Management of Musculoskeletal Lower Extremity Dysfunction	2
PHYT 6258	Bridge Health Care Systems	2
PHYT 6284	Bridge Clinical Education II (4 weeks)	2
PHYT 6364	Bridge Rehabilitation Technology	3
PHYT 6365	Bridge Neurotherapeutics I: Acquired Brain Injury (ABI)	3
	SEMESTER TOTAL	**12**

Semester V (Fall II)

PHYT 6259	Bridge Psychosocial Aspects	2
PHYT 6266	Bridge Clinical Reasoning II	2
PHYT 6281	Bridge Clinical Applications II	2
PHYT 6287	Bridge Neurotherapeutics II Progressive Neurological Diseases	2
PHYT 6367	Bridge Diagnosis and Management of Developmental Dysfunctions	3
PHYT 6382	Bridge Clinical Education in Physical Therapy III (6 weeks)	3
	SEMESTER TOTAL	**14**

Semester VI (Spring II)

PHYT 6261	Bridge Differential Diagnosis	2
PHYT 6264	Bridge Diagnosis and Management of Musculoskeletal Upper Extremity Dysfunction	2
PHYT 6282	Bridge Clinical Applications III	2

PHYT 6369 Bridge Medically Complex Patient 3
PHYT 6383 Bridge Clinical Education in Physical Therapy IV (6 weeks) 3
PHYT 6389 Bridge Neurotherapeutics III (SCI)/Lab 3

SEMESTER TOTAL 15

TOTAL OF 83 HOURS PLUS 7 HOURS OF ADVANCED STANDING GRANTED BASED UPON THE PRE-REQUIRED MINIMUM 2 YEARS OF LICENSED EXPERIENCE EQUALS 90 HOURS. 20 WEEKS OF CLINICAL ROTATIONS.

Course of study for Masters of Science in Health Professions with Specialty in Physical Therapy is as follows.

Semester I (Fall)

MSHP 5303 Health Care Policy (Core) 3
(Select two courses from the following)
MSHP 5501 Advanced Practice Practicum Education 5
MSHP 5502 Advanced Practice Practicum Management 5
MSHP 5503 Advanced Practice Practicum Research 5
MSHP 5504 Advanced Practice Practicum Clinical Practice 5

SEMESTER TOTAL 13

Semester II (Spring)

MSHP 5302 Scientific Writing (Core) 3
MSHP 5304 Thesis Project I 3
(Select one course from the following)
MSHP 5501 Advanced Practice Practicum Education 5
MSHP 5502 Advanced Practice Practicum Management 5
MSHP 5503 Advanced Practice Practicum Research 5
MSHP 5504 Advanced Practice Practicum Clinical Practice 5

SEMESTER TOTAL 11

Semester III (Summer)

MSHP 5301 Medical Ethics (Core) 3
MSHP 5305 Thesis Project II 3
(Select one course from the following)
MSHP 5501 Advanced Practice Practicum Education 5
MSHP 5502 Advanced Practice Practicum Management 5
MSHP 5503 Advanced Practice Practicum Research 5
MSHP 5504 Advanced Practice Practicum Clinical Practice 5

SEMESTER TOTAL 11

Course Descriptions:

(In numerical sequence; hours of lecture, lab, clinical, conference, discussion or seminar may be substituted by one or more learning activities; see course syllabus for details.)

These courses are open to Physical Therapy majors only or with consent of the department chair.

PHYT 6090 Special Topics in Physical Therapy 1–2 Credits

Students will be given the opportunity to: 1) develop knowledge and skills in special or advanced techniques and processes of patient management in physical therapy; or 2) develop advanced knowledge of the physical therapy management of patients with specific conditions. The course may be repeated for credit when content varies. (Hours are arranged). *Prerequisites: Permission of the instructor.*

PHYT 6110 Surface Anatomy **1 Credit**

Students will be given the opportunity to: 1) demonstrate basic palpation skills; and 2) practice identifying bony landmarks, superficial muscles and tendons, and ligaments of the trunk and extremities. Practical exams will be used to test palpation skills. (2 lecture and 40 laboratory hours per enrollment period). *Prerequisites: Admission to DPT program.*

PHYT 6180 Bridge Clinical Applications I **1 Credit**

Students will be given the opportunity to: 1) review medical records and conduct interviews to collect pertinent data; 2) perform review of systems screening; 3) analyze normal and abnormal movement using quantitative and qualitative measures in a clinical context; 4) analyze documentation of client management utilizing professional practice guidelines and regulatory requirements; and 5) synthesize available data on clients utilizing the Guide to Physical Therapist Practice and the International Classification of Function, Disability, and Health (ICF) model. (45 lab hours). 3:1 model. *Prerequisites: Successful completion of previous PT courses.*

PHYT 6184 Bridge Clinically Applied Neuroanatomy **1 Credit**

Students will be given the opportunity to: 1) develop an in-depth understanding of the structures and functions of the brain, spinal cord and peripheral nervous system; 2) identify anatomical structures involved in the autonomic nervous system, and 3) connect spinal levels with motor and sensory pathways. (15 lecture hours). *Prerequisites: Admission to Bridge PTA to DPT program.*

PHYT 6206 Bridge Human Anatomy **2 Credits**

Students will be given the opportunity to: 1) acquire advanced knowledge relating to anatomical systems involved in neuromusculoskeletal disorders (spine, upper and lower extremities) and cardiopulmonary disorders; 2) describe the origin, insertion, blood supply, innervation, and function of individual muscles, ligaments, and related joint structures; 3) describe the major organs, blood supply, innervation, and function of the cardiovascular and pulmonary systems; 4) integrate knowledge of anatomical systems into the principles of patient management and disease prevention.. (15 lecture hours, 30 lab hours). *Prerequisites: Successful completion of previous coursework.*

PHYT 6216 Exercise Physiology **2 Credits**

Students will be given the opportunity to: 1) acquire knowledge of the integrative physiology of the neuromuscular, cardiovascular, respiratory, endocrine, and renal systems; 2) determine how acute and chronic exercise causes adaptations in these systems at the cellular and systems level;

3) apply scientific principles underlying the use of exercise training in rehabilitation. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6220 Evidence-Based Practice in Physical Therapy **2 Credits**

Students will be given the opportunity to: 1) determine the need for evidence-based practice in physical therapy; and 2) recognize how the methods and procedures developed in clinical medicine can be used to establish evidence-based strategies in working with persons who have a disability or chronic disease. (30 lecture hours per enrollment period). *Prerequisites: Admission to DPT program.*

PHYT 6222 Lifespan Development **2 Credits**

Students will be given the opportunity to: 1) describe the current principles of motor development; 2) identify developmental milestones achieved by children and adults; 3) perform

assessments on typically-developing children and adults; and 4) describe the effects of aging on motor performance. (20 lecture and 30 laboratory hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6223 Professional Issues in Health Care and Physical Therapy 2 Credits

Students will be given the opportunity to: 1) acquire knowledge of the ethical principles and legal factors, which influence health care and physical therapy; 2) apply these concepts to clinical scenarios; and 3) delineate the roles of health care providers and physical therapists; 4) discuss strategies for successful clinical education experiences (30 lecture hours). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6224 Medical Spanish for Rehabilitation Specialists 2 Credits

Students will be given the opportunity to: 1) demonstrate proficiency in basic medical Spanish; 2) complete a simulated evaluation and examination in Spanish. (15 lecture and 45 laboratory hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6225 Psychosocial Aspects of Disability 2 Credits

Students will be given the opportunity to: 1) recognize personal, cultural and societal differences in ways people seek and accept health care; 2) describe psychosocial adaptations to disability; 3) determine the role of the physical therapist in patient advocacy; and 4) problem solve for patient psychosocial issues using cases from previous clinical experiences. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6227 Evidence Based Seminar in Physical Therapy 2 Credits

Using a case from a previous clinical experience, students will be given the opportunity to: 1) develop a case study using concepts of evidence-based practice; and, 2) present the case study to peers in a professional research symposium format. (30 seminar hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6228 Differential Diagnosis in Physical Therapy 2 Credits

Students will be given the opportunity to: 1) integrate the findings from the history, systems review and PT tests and measures; and 2) formulate a PT diagnosis, prognosis and treatment plan for complex patient cases. (30 seminar hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6250 Bridge Development through the Lifespan 2 Credits

Students will be given the opportunity to: 1) describe the current principles of motor development; 2) identify developmental milestones achieved by children and adults; 3) perform assessments on typically-developing children and adults; and 4) describe the effects of aging on motor performance. (28 lecture hours and 2 lab hours using a 3:1 model per enrollment period). *Prerequisites: Admission to Bridge PTA to DPT program.*

PHYT 6251 Bridge Professional Issues in Health Care and Physical Therapy 2 Credits

Students will be given the opportunity to: 1) demonstrate knowledge of ethical principles and legal regulations that influence health care and physical therapy; 2) apply legal and ethical concepts to clinical practice; 3) delineate roles of health care providers; 4) practice and assess professional communication skills; and 5) discuss current issues in the physical therapy profession (30 lecture hours). *Prerequisites: Admission to Bridge PTA to PT Program.*

PHYT 6252 Bridge Evidence-Based Practice 2 Credits

Students will be given the opportunity to: 1) understand principles of evidence-based practice in physical therapy; 2) critically evaluate research methods used in clinical medicine; 3) Identify a clinical problem in a patient (diagnosis, prognosis, intervention, outcome) and formulate a searchable clinical question. and 3) establish evidence-based strategies for working patients. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6253 Bridge Pharmacology for Rehabilitation Specialists 2 Credits

Students will be given the opportunity to: 1) become familiar with common drugs and classes of medications; 2) develop an understanding of interactions between medication use and physical therapy interventions; 3) discuss the impact of medications on achievement of optimal functioning within a predicted time frame; 4) apply principles of pharmacokinetics, pharmacodynamics, and polypharmacy to case scenarios. (30 lecture hours). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6254 Bridge Medical Diagnostics 2 Credits

Students will be given the opportunity to: (1) formulate a working vocabulary of medical diagnostic terminology; (2) recognize how increased medical diagnostic knowledge can facilitate more comprehensive physical therapist evaluations and appropriate treatment interventions; (3) develop a working understanding of the applications and limitations of medical diagnostic procedures; and (4) engage in differential diagnosis process integrating medical diagnostic procedures with clinical presentations across body systems. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6256 Bridge Clinical Reasoning I 2 Credits

Students will be given the opportunity to: 1) Review the literature on clinical decision making models in physical therapy 2)Describe the application of clinical reasoning in a specific clinical practice setting 3) Select a clinical decision making model that best fits the patient and setting the student is working in. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6257 Bridge Diagnosis and Management of Musculoskeletal Extremity Dysfunction 2 Credits Lower

Students will be given the opportunity to: 1) develop skill in orthopedic examination, evaluation and management of musculoskeletal dysfunction of the lower extremity including mobility and motor coordination dysfunctions of the hip, knee, and ankle foot complex ; 2) integrate an understanding of musculoskeletal pathophysiology with best evidence and patient values to establish a patient centered plan of care; 3) select valid and reliable outcome measures; 4) analyze and apply assessment findings to monitor and adjust the plan of care to achieve patient goals and enhance patient outcomes. (10 Lecture Hours and 40 Laboratory Hours using a 2:1 model). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6258 Bridge Health Care Systems 2 Credits

Students will be given the opportunity to: 1) Apply basic management theories, principles, and practices to health care delivery; 2) Categorize alternative means and sources of health care delivery as these relate to physical therapy; 3) Recognize reimbursement sources and billing regulations/procedures; 4) Examine the legal and legislative factors that impact health care delivery; 5) Defend current issues in PT practice such as direct access, scope of practice and entry-level degree; 6) Apprise situations in terms of risk management and quality improvement

issues; and 7) Select alternative funding resources available within the community for health care practitioners and clients. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6259 Bridge Psychosocial Aspects 2 Credits

Students will be given the opportunity to: 1) Recognize personal, cultural and societal differences in ways people seek and accept health care; 2) describe psychosocial adaptations to disability; 3) determine the role of the physical therapist in patient advocacy; and 4) problem solve for patients psychosocial issues using cases from previous clinical experiences. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6260 Bridge Diagnosis and Management of Integumentary Dysfunction 2 Cred its

Students will be given the opportunity to: 1) determine the impact on wounds and wound healing based on the etiology and pathology of disorders of the integumentary system, including but not limited to: diabetes, wounds and burns, amputations, and skin cancer; 2) develop comprehensive physical therapy intervention plans for clients with disorders of the integumentary system. (15 lecture hours and 30 lab hours using a 2:1 model for labs per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6261 Bridge Differential Diagnosis 2 Credits

Students will be given the opportunity to: 1) integrate the findings from the history, systems review and PT tests and measures to perform a differential diagnosis examination; 2) formulate a PT diagnosis, prognosis and treatment plan for complex patient cases and communicate the findings to another health care professional; 3) apply integrated knowledge to a practice Board examination. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6262 Diagnosis and Management of Integumentary Dysfunction 2 Credits

Students will be given the opportunity to: 1) develop advanced knowledge in the etiology and pathology of disorders of the integumentary system, including but not limited to: diabetes, wounds and burns, amputations, and skin cancer; 2) describe biomechanical principles, indications and use of prosthetic devices in clients with upper and lower extremity amputations; and 3) develop comprehensive physical therapy intervention plans for clients with disorders of the integumentary system. (24 lecture, 18 laboratory, hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6263 Advanced Orthotics and Prosthetics 2 Credits

Students will be given the opportunity to: 1) describe biomechanical principles, indications, and uses of prosthetic devices in clients with upper and lower extremity amputations; 2) describe biomechanical principles, indications, and uses of orthotics; 3) develop comprehensive physical therapy intervention plans for clients with disorders requiring the use of prosthetic or orthotic devices; and 4) complete documentation that follows professional systems, and guidelines required by health care systems, and guidelines required by practice setting. (18 lecture hours and 36 laboratory hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6264 Bridge Diagnosis and Management of Musculoskeletal 2 Credits Upper Extremity Dysfunction

Students will be given the opportunity to: 1) develop skill in orthopedic examination, evaluation and management of musculoskeletal dysfunction of the upper extremity including

mobility and motor coordination dysfunctions of the shoulder, elbow, wrist and hand; 2) integrate an understanding of musculoskeletal pathophysiology with best evidence and patient values to establish a patient centered plan of care; 3) select valid and reliable outcome measures; 4) analyze and apply assessment findings to monitor and adjust the plan of care to achieve patient goals and enhance patient outcomes. (10 Lecture Hours and 40 Laboratory Hours using a 2:1 model). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6265 Bridge Neurotherapeutics III: Progressive Neurological Diseases 2 Credits

Students will be given the opportunity to: 1) apply evaluation/examination procedures for patients with progressive neurological conditions; 2) select appropriate PT differential diagnosis, prognosis and outcome prediction; 3) design clinical reasoning processes for formulation of treatment interventions for management of abnormal movement patterns/abnormal tone and restoration of motor control/functional mobility for patients with progressive neurological conditions; and 4) utilize evidence-based practice for selection, utilization and interpretation of outcome measures for best practice with the population of patients with progressive neurological diseases. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6266 Bridge Clinical Reasoning II 2 Credits

Students will be given the opportunity to: 1) Using a case based problem, apply a clinical decision making model to justify a decision related to patient management, 2) Incorporate patients/clients values, ethics and cultural differences in the clinical decision making process. 3) Explicitly identify elements of the clinical decision making process used with a patient/ client, 4) prepare a thorough description of the clinical reasoning process of diagnosing a patient/client. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6280 Bridge Clinical Education in Physical Therapy I 2 Credits

Students will be given the opportunity in a clinical setting to: 1) apply professional knowledge and skill in a safe, effective, and efficient manner; 2) practice essential skills for physical therapist competencies with supervision of a clinical instructor; and 3) demonstrate competency in managing basic client problems. (160 hours Practicum). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6281 Bridge Clinical Applications II 2 Credits

Students will be given the opportunity to: 1) appraise psychosocial aspects of disability in current clinical cases; 2) integrate examination findings in clinical cases to classify and prioritize problems utilizing the Guide to Physical Therapist Practice and the International Classification of Function, Disability, and Health (ICF) model; 3) select outcome measures for impairments in body function and structure, activity limitations, and participation with consideration of goals and psychometric properties; 4) determine predicted level of optimal functioning and estimate time required to achieve that level for clinical cases; 5) establish criteria and a plan for discharge or discontinuation of physical therapy services for clinical cases; 6) apply principles of management and health systems to a current clinical setting; 7) aggregate data across clinical cases and analyze results to determine effectiveness of interventions; and 8) promote health and wellness in a clinical or community setting (90 lab hours). 3:1 model). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6282 Bridge Clinical Applications III 2 Credits

Students will be given the opportunity to: 1) develop a case study using concepts of evidence-based practice using a case from previous clinical experience; and, 2) present the case study to

peers in a professional research symposium format. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6284 Bridge Clinical Education in Physical Therapy II 2 Credits

Students will be given the opportunity in a clinical setting to: 1) apply professional knowledge and skill in a safe, effective, and efficient manner; 2) integrate essential skills for physical therapist competencies with supervision of a clinical instructor; and 3) demonstrate competency in managing intermediate level client problems. (160 hours Practicum). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6285 Medical Diagnostics for the Physical Therapist 2 Credit

Students will be given the opportunity to: (1) formulate a working vocabulary of diagnostic imaging terminology; (2) recognize how increased diagnostic imaging knowledge can facilitate more comprehensive physical therapist evaluations and appropriate treatment interventions; (3) develop a working understanding of the applications and limitations of diagnostic imaging procedures; (4) engage in differential diagnosis process integrating diagnostic procedures with clinical presentations across body systems; and (5) demonstrate pathways through which physical therapists may recommend/refer for diagnostic imaging, and discuss issues surrounding physical therapy's access to diagnostic imaging for their patients. *Prerequisites: Successful completion of previous PT courses.*

8PHYT 6286 Pharmacology for Rehabilitation Specialists 2 Credit

Students will be given the opportunity to: 1) become familiar with common drugs and classes of medications; 2) develop an understanding of interactions between medication use and physical therapy interventions; 3) discuss the impact of medications on achievement of optimal functioning within a predicted time frame; 4) apply principles of pharmacokinetics, pharmacodynamics, and polypharmacy to case scenarios. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6287 Bridge Neurotherapeutics II Progressive Neurological Diseases 2 Credits

Students will be given the opportunity to: 1)apply evaluation/examination procedures for patients with progressive neurological conditions; 2) select appropriate PT differential diagnosis, prognosis and outcome prediction; 3) design clinical reasoning processes for formulation of treatment interventions for management of abnormal movement patterns/abnormal tone and restoration of motor control/functional mobility for patients with progressive neurological conditions; and 4) utilize evidence- based practice for selection, utilization and interpretation of outcome measures for best practice with patients with progressive neurological diseases. (25 lecture and 15 lab hours). *Prerequisites: Successful completion of previous coursework.*

PHYT 6290 Diagnosis and Management of Upper Extremity Musculoskeletal Dysfunction 2 Credits

Students will be given the opportunity to: 1) develop skill and demonstrate competence in orthopedic examination, evaluation, diagnosis, prognosis, and management of musculoskeletal dysfunction of the upper extremity including mobility, and motor coordination dysfunction in the shoulder, elbow, wrist and hand; 2) understand the etiology and pathology of common upper extremity orthopedic problems including the medical and surgical interventions; 3) select valid and reliable outcome measures; 4) analyze and apply assessment findings to monitor and adjust the plan of care to achieve patient goals and enhance patient outcomes. (52 contact hours). *Prerequisites: Successful completion of previous PT coursework.*

PHYT 6302 Physical Therapy Differential Diagnosis 3 Credits

Students will be given the opportunity to: 1) integrate the findings from the history, systems review and PT tests and measures; 2) formulate a PT diagnosis, prognosis and treatment plan for complex patient cases; 3) utilize review of systems to medically screen and identify existing comorbidities and red flags to determine if PT management is appropriate based on patient presentation or if the patient would benefit from additional referrals. (75 contact hours) *Prerequisites: Successful completion of previous PT courses.*

PHYT 6311 Clinical Pathology for Rehabilitation Specialists 3 Credits

Students will be given the opportunity to: 1) acquire knowledge of pathological processes of disease and injury relevant to rehabilitation and the treatment provided by physical therapists;

2) understand the pathophysiology of select neurological and musculoskeletal diseases; and 3) understand the basic cellular and molecular mechanisms of cell injury and recovery. (45 lecture hours per enrollment period). *Prerequisites: Admission to DPT program.*

PHYT 6313 Neuroscience for Health Professionals 3 Credits

Students will be given the opportunity to: 1) identify the gross anatomy of the human central nervous system; 2) trace clinically relevant functional pathways in the nervous system; 3) describe the functional significance of each of these pathways; and 4) correlate the signs/symptoms of neural dysfunction with the appropriate central or peripheral neural defect. (45 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6314 Movement Science I 3 Credits

Students will be given the opportunity to: 1) integrate principles of anatomy, physics and physiology to investigate normal and abnormal movement of the spine and extremities; 2) understand foundational principles of biomechanics, joint kinematics, and muscle function; 3) apply foundational concepts for each body segment; 4) analyze tasks that integrate the basic and complex concepts and problem solving skills for whole body analysis. (30 lecture and 45 laboratory hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6315 Movement Science II 3 Credits

Students will be given the opportunity to: 1) understand the CNS control of normal and abnormal muscle tone and movement patterns with exercise and functional mobility; 2) apply theories of motor control to human gait; 3) conceptualize theories of neuroplasticity; and 4) understand the physiology, function and therapeutic applications of the following nervous systems: Exteroceptive, Interoceptive, Motor, and Perception/Cognitive. (38 lecture, 14 laboratory and 3 seminar hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6326 Management and Health Systems in Physical Therapy 3 Credits

Students will be given the opportunity to: 1) apply basic management theories, principles, and practices to health care delivery; 2) categorize alternative means and sources of health care delivery as these relate to physical therapy; 3) understand reimbursement sources and billing regulations/ procedures; 4) examine the legal and legislative factors that impact health care delivery; 5) defend current issues in PT practice such as direct access, scope of practice and entry-level degree; 6) apprise situations in terms of risk management and quality improvement issues; and 7) determine the alternative funding resources available within the community for health care practitioners and clients. (45 lecture hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6342 Functional Training Techniques in Physical Therapy 3 Credits

Students will be given the opportunity to: 1) demonstrate learning and teaching skills; 2) determine basic management and functional training of patients with a variety of impairment levels; and 3) develop management and functional training plans of care of patients over lifespan including patients with special needs. (32 lecture and 40.5 laboratory hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6343 Exercise and Manual Techniques in Physical Therapy 3 Credits

Students will be given the opportunity to: 1) prescribe and teach therapeutic exercise, assess joint play, and perform joint mobilization and soft tissue techniques; 2) formulate functional goals and develop appropriate exercise programs for patients with selected pathological conditions; 3) recommend appropriate exercise parameters for healthy individuals to promote physical fitness and wellness. (21 lecture, 60 laboratory, 3 seminar and 8 practicum hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6344 Physical Agents and Pain Management in Physical Therapy 3 Credits

Students will be given the opportunity to: 1) apply thermal, electrical, and mechanical modalities based on physiological effects of modalities; 2) understand the physiological effects of modalities on the nervous, vascular and musculoskeletal systems; and 3) apply sterile techniques and basic bandaging skills. (15 lecture and 90 laboratory hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6350 Bridge Competencies in Physical Therapy 3 Credits

Students will be given the opportunity to: Demonstrate competence in fundamental skills including bony and muscular palpation skills, goniometric measurements, muscle testing, functional training and assessment of vital signs (35 lecture hours and 20 lab hours (using a 2:1 model) per enrollment period). *Prerequisites: Admission to the Bridge PTA to DPT program.*

PHYT 6352 Bridge Neuroscience 3 Credits

Students will be given the opportunity to: 1) review basic cellular and synaptic physiology; 2) learn the gross anatomical and cross-sectional anatomy of the human central nervous system; 3) diagram the most clinically relevant functional pathways in the nervous system; 4) describe the functional significance of each of these pathways; and 5) correlate the signs/symptoms of neural dysfunction with the appropriate central or peripheral neural defect. (45 lecture hours.) *Prerequisites: Admission to the Bridge PTA to DPT program.*

PHYT 6353 Bridge Movement Science I 3 Credits

Students will be given the opportunity to: 1) integrate principles of anatomy, physics and physiology to investigate normal and abnormal movement of the spine and extremities; 2) integrate foundational principles of biomechanics, joint kinematics, and muscle function related to movement; 3) apply foundational concepts for each body segment; 4) analyze tasks that integrate the basic and complex concepts and problem solving skills for whole body analysis. (30 hours Lecture, 30 hours Laboratory/ 2:1 model). *Prerequisites: Admission to the Bridge PTA to DPT program.*

PHYT 6354 Bridge Clinical Pathology 3 Credits

Students will be given the opportunity to: 1) acquire knowledge of pathological processes of disease and injury relevant to rehabilitation and the treatment provided by physical therapists, including and not limited to endocrine, metabolic, gastrointestinal, musculoskeletal, and

neuromuscular; 2) understand the pathophysiology of select musculoskeletal diseases, and 3) Identify the basic cellular and molecular mechanisms of cell injury and recovery. (45 lecture). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6356 Bridge Movement Science II 3 Credits

Students will be given the opportunity to : 1) describe the CNS control of normal and abnormal muscle tone and movement patterns with exercise and functional mobility; 2) apply theories of motor control and motor learning to human gait and other functional skills; 3) conceptualize theories of neuroplasticity; 4) understand the integration the physiology, function and therapeutic applications of the following nervous systems: exteroceptive, interoceptive, motor and perception/cognitive; 5) identify normal biomechanical gait characteristics for each phase of gait; 6) identify pathological gait deviations and common causes and clinical significance. (30 lecture hours and 30 laboratory hours using 2:1 model per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6363 Bridge Cardio Pulmonary Physical Therapy 3 Credits

Students will be given the opportunity to: 1) demonstrate knowledge of the etiology and pathology of selected cardiovascular and pulmonary disorders through the lifespan; 2) administer tests and measures used with patients with cardiovascular and pulmonary disorders utilizing evidenced based practice; 3) Identify risk factors associated with cardiovascular and pulmonary issues; 4) After identifying risk factors associated with cardiovascular and pulmonary issues, select appropriate primary prevention strategies; (30 lecture hours and 30 lab hours using a 2:1 model for labs) per enrollment period. *Prerequisites: Successful completion of previous PT courses.*

PHYT 6364 Bridge Rehabilitation Technology 3 Credits

Students will be given the opportunity to: 1) describe biomechanical principles, indications and use of prosthetic and orthotic devices in clients with upper extremity and lower extremity issues across the lifespan; 2) Prescribe appropriate prosthetic, orthotic, or assistive device/adaptive equipment to increase functional independent f a client; 2) develop comprehensive physical therapy intervention plans for clients with disorders requiring the use prosthetic/orthotic devices 3) demonstrate advanced knowledge and skill in assessment, selection, acquisition, and use of assistive and adaptive technology to increase functional independence across the lifespan. (30 lecture hours and 30 Laboratory Hours using a 2:1 model per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6365 Bridge Neurotherapeutics I: Acquired Brain Injury 3 Credits

Students will be given the opportunity to: 1) apply evaluation/examination procedures to patients acquired brain injury; 2) evaluate PT differential diagnosis, prognosis and outcome prediction; 3) examine the clinical reasoning processes for formulation of treatment interventions for management of abnormal movement patterns/abnormal tone, and restoration of motor control/functional mobility; and 4)utilize evidence based practice for selection, utilization and interpretation of outcome measures for best practice with the population of patients with acquired brain injury. (15 lecture hours, 60 lab hours, using a 2:1 model for labs). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6366 Bridge Neurotherapeutics II: Spinal Cord Injury 3 Credits

Students will be given the opportunity to:1) apply evaluation/examination procedures; 2) PT differential diagnosis, prognosis, and outcome prediction; 3) construct clinical reasoning processes for formulation of treatment interventions for management of abnormal tone, and restoration

of motor control/functional mobility; and 4) utilize evidence-based practice for selection, utilization and interpretation of outcome measures for best practice with population of patients with spinal cord injury. (15 lecture hours, 90 lab hours (3:1 model for labs) per enrollment period. *Prerequisites: Successful completion of previous PT courses.*

PHYT 6367 Bridge Diagnosis and Management of Developmental Dysfunctions 3 Credits

Students will be given the opportunity to: 1) acquire knowledge of the etiology and pathology of selected pediatric disorders; 2) describe the medical and surgical management of selected pediatric disorders and the implications these have for physical therapy; 3) evaluate and assess pediatric clients; and 4) plan appropriate physical therapy management of pediatric clients. (30 lecture hours and 45 lab hours using a 3:1 model for labs per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6368 Diagnosis and Management of Developmental Dysfunctions 3 Credits

Students will be given the opportunity to: 1) determine the etiology and pathology of selected pediatric disorders; 2) describe the medical and surgical management of selected pediatric disorders and the implications these have for physical therapy; 3) evaluate and assess pediatric clients; and 4) plan appropriate physical therapy management of pediatric clients. (30 lecture and 45 laboratory hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6369 Bridge Management of Medically Complex Patients 3 Credits

Students will be given the opportunity to: 1) formulate approaches to examination of clients with impairments in multiple systems including cardiopulmonary, musculoskeletal, neuromuscular, and integument; 2) develop strategies to prioritize interventions for clients with complex medical and functional problems; 3) examine the impact of comorbid conditions on prognosis and rehabilitation outcomes; 4) assess interdisciplinary roles in the management of medically complex clients across different health care settings (45 lecture hours). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6382 Bridge Clinical Education in Physical Therapy III 3 Credits

Students will be given the opportunity in a clinical setting to: 1) demonstrate entry-level competency in professional practice and essential clinical skills; 2) evaluate advanced and complex client problems; 3) create a plan of care for advanced and complex client problems; and 4) demonstrate competency in overall practice management (240 hours Practicum). *Prerequisites: Successful completion of previous PT courses and 3.0 GPA.*

PHYT 6383 Bridge Clinical Education in Physical Therapy IV 3 Credits

Students will be given the opportunity a clinical setting to: 1) demonstrate entry-level competency in professional practice and essential clinical skills; 2) evaluate advanced and complex client problems; 3) create a plan of care for advanced and complex client problems; 4) demonstrate competency in overall practice management; and 5) analyze outcomes for effectiveness and efficiency of clinical performance (240 hours Practicum). *Prerequisites: Successful completion of previous PT courses and 3.0 GPA.*

PHYT 6390 Diagnosis and Management of Lower Extremity Musculoskeletal Dysfunction 3 Credits

Students will be given the opportunity to: 1) develop skill and demonstrate competence in orthopedic examination, evaluation, diagnosis, prognosis, and management of musculoskeletal

dysfunction of the lower extremity including mobility, and motor coordination dysfunction in the hip, knee and ankle; 2) understand the etiology and pathology of common lower extremity orthopedic problems including the medical and surgical interventions; 3) select valid and reliable outcome measures; 4) analyze and apply assessment findings to monitor and adjust the plan of care to achieve patient goals and enhance patient outcomes. (75 contact hours). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6418 Human Anatomy for Rehabilitation Professionals **4 credits**

Students will be given the opportunity to:1) locate and identify the skeletal structures, muscles and other major organs in the human body; 2) describe the origin, insertion, blood supply, innervation and function of the individual muscle; 3) identify the synergistic and antagonistic muscle groups; and 4) understand the functional deficiencies related to the specific muscle and nerve damage. Laboratory sessions will provide the students the opportunity to dissect cadavers and acquire the dissection skills in addition to the anatomical knowledge. (38 lecture and 37 laboratory hours per enrollment period). *Prerequisites: Admission to the DPT Program.*

PHYT 6441 Clinical Examination in Physical Therapy **4 Credits**

Students will be given the opportunity to: 1) perform tests and measures accurately and reliably; 2) problem solve and select appropriate tests and measures for the patient type and environmental context of patients; 3) interpret the information gained from these test and measures to form strategies to prioritize patient centered and clinician centered goals based on examination findings; 4) formulate a PT diagnosis and preliminary prognosis; and 5) document findings using commonly accepted formats. (35 lecture and 76 laboratory hours per enrollment period). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6442 Physical Therapy Functional Training **4 Credits**

Students will be given the opportunity to: 1) demonstrate learning and teaching skills; 2) determine basic management and functional training of patients with a variety of impairment levels (physical and cognitive); 3) develop management and functional training plans of care of patients over lifespan including patients with special needs; 4) utilize knowledge, application and problem solving skills for management and functional training of the patient: a) with limited bed mobility, b) limited mobility in transferring from the bedside to other locations, c) requiring a wheelchair or assistive devices for ambulation, d) training of common activities of daily living. 5) Utilize medical record, outcome measures and documentation to manage patients in acute and sub-acute care setting. (90 contact hours). *Prerequisites: Successful completion of previous PT coursework.*

PHYT 6461 Bridge Diagnosis and Management of Musculoskeletal Dysfunction **4 Credits Spine**

Students will be given the opportunity to: 1) develop skill in orthopedic examination, evaluation and management of musculoskeletal dysfunction of the spine including the cervical, temporomandibular, thoracic, lumbar, and sacroiliac joints and common motor coordination and pelvic dysfunctions; 2) integrate an understanding of musculoskeletal pathophysiology with best evidence and patient values to establish a patient centered plan of care; 3) select valid and reliable outcome measures; 4) analyze and apply assessment findings to monitor and adjust the plan of care to achieve patient goals and enhance patient outcomes. (20 Lecture Hours and 80 Laboratory Hours using a 2:1 model). *Prerequisites: Successful completion of previous PT courses.*

PHYT 6463 Diagnosis and Management of Cardiovascular and Pulmonary Dysfunction **4 Credits**

Students will be given the opportunity to: 1) demonstrate knowledge of the etiology and pathology of selected cardiovascular and pulmonary disorders; 2) demonstrate knowledge and skill in the physical therapy management of patients with these conditions. (45 lecture and 30 laboratory hours per enrollment period). Prerequisites: Successful completion of previous PT courses.

PHYT 6464 Diagnosis and Management of Neuromuscular Dysfunction I **4 Credits**

Students will be given the opportunity to: 1) understand the pathophysiology of SCI; 2) identify SC diseases; 3) determine demographic and epidemiological issues related to this patient population; 4) develop skill in examination/evaluation procedures; 5) determine differential diagnoses given signs and symptoms; 6) determine prognosis and predict outcome; 7) develop specific treatment techniques for functional training; 8) prescribe wheelchair, mobility training, and/or orthotics (especially as related to gait); and 9) determine available evidence for practice with the population of patients with SCI. (45 lecture and 45 laboratory hours per enrollment period). Prerequisites: Successful completion of previous PT courses.

PHYT 6465 Diagnosis and Management of Musculoskeletal **4 Credits**

Spinal Dysfunction Students will be given the opportunity to: 1) develop skill in orthopedic examination, evaluation and treatment planning principles; 2) develop skill in evaluation and treatment of the cervical, temporomandibular, thoracic, lumbar and sacroiliac joints; 3) integrate musculoskeletal pathophysiology of bone, joint, and muscle including surgical procedures and immobilization with examination and evaluation procedures and treatment planning; 4) integrate orthopedic principles with anatomy of the pelvic floor, and male and female reproductive systems, common pelvic dysfunctions and women's health cases. (45 lecture, 42 laboratory and 8 practicum hours per enrollment period). Prerequisites: Successful completion of previous PT courses.

PHYT 6466 Diagnosis and Management of Musculoskeletal Dysfunction **4 Credits Extremity**

Students will be given the opportunity to: 1) understand the etiology and pathology of common orthopedic problems and the medical and surgical interventions of the upper and lower extremities; and 2) demonstrate competence in examination, evaluation, diagnosis, prognosis and treatment planning for upper and lower extremity dysfunction. (38 lecture, 50 laboratory, and 6 seminar hours per enrollment period). Prerequisites: Successful completion of previous PT courses.

PHYT 6467 Diagnosis and Management of Neuromuscular Dysfunction II **4 Credits**

Students will be given the opportunity to develop knowledge and skill in the following: 1) pathophysiology of BI; 2) demographic and epidemiological issues; 3) examination/ evaluation procedures; 4) differential diagnosis given signs and symptoms, prognosis and outcome prediction 5) specific treatment techniques for patient management of abnormal tone and abnormal movement, restoration of motor control, functional training, assessment of equipment needs, gait training, wheelchair prescription and mobility training, orthotic prescription; and 6) evidence for practice with the population of patients with BI. (36 lecture and 90 laboratory hours per enrollment period). Prerequisites: Successful completion of previous PT courses.

PHYT 6481 Clinical Education in Physical Therapy I **4 Credits**

Students will be given the opportunity in a clinical setting to: 1) apply professional knowledge and skill in a safe, effective, and efficient manner; and 2) demonstrate competency in managing basic client problems under close supervision of a physical therapist. (320 practicum hours per enrollment period). *Prerequisites: Successful completion of previous PT courses and 3.0 GPA.*

PHYT 6482 Clinical Education in Physical Therapy II **4 Credits**

Students will be given the opportunity to: 1) apply professional knowledge and skill in a safe, effective, and efficient manner; and 2) demonstrate competency in managing intermediate level client problems. (320 practicum hours per enrollment period). *Prerequisites: Successful completion of previous PT courses and 3.0 GPA.*

PHYT 6581 Clinical Education I Entry Level 1 **5 Credits**

Students will be given the opportunity to: 1) apply professional knowledge and skill in a safe, effective, and efficient manner; and 2) demonstrate competency in managing basic client/patient problems. (400 clinic hours). *Prerequisites: Successful completion of previous PT coursework.*

PHYT 6682 Clinical Education II Entry Level **6 Credits**

Students will be given the opportunity to: 1) apply professional knowledge and skill in a safe, effective, and efficient manner; and 2) demonstrate competency in managing intermediate level client/patient problems. (480 clinic hours). *Prerequisites: Successful completion of previous PT coursework.*

PHYT 6683 Clinical Education in Physical Therapy III **6 Credits**

Using the Physical Therapist Manual for the Assessment of Clinical Skills for a variety of separate clinical experiences, students will be given the opportunity to: 1) demonstrate entry- level competency in professional practice; 2) develop a plan of care for patient management in advanced and complex client problems; and 3) demonstrate competency in overall practice management. (480 practicum hours per enrollment period). *Prerequisites: Successful completion of previous PT courses and 3.0 GPA.*

PHYT 6684 Clinical Education in Physical Therapy IV **6 Credits**

Using the Physical Therapist Manual for the Assessment of Clinical Skills for a variety of separate clinical experiences, students will be given the opportunity to: 1) demonstrate entry- level competency in professional practice; 2) develop a plan of care for patient management in advanced and complex client problems; and 3) demonstrate competency in overall practice management. (480 practicum hours per enrollment period). *Prerequisites: Successful completion of previous PT courses and 3.0 GPA.*

MSHP 5301 Medical Ethics **3 Credits**

Students will be given the opportunity to: 1) describe ethics and values in a health care setting; 2) evaluate the values of ethical principles among health care professionals; 3) assess the process of resolution when presented with an ethical dilemma; 4) apply ethical standards related to mental health, experimentation on human subjects, patient consent, genetics, and rights to death, and; 5) integrate the knowledge of medical ethics into the health care practice. (45 lecture hours per enrollment period). *Prerequisites: None.*

MSHP 5302 Intro to Scientific Writing **3 Credits**

Students will be given the opportunity to: 1) examine the scientific literature and peer reviewed journals; 2) analyze the history research and identify the proper steps involved in the research process; 3) apply appropriate use of writing skills in a scientific paper; and 4) prepare a paper suitable for publication in a peer reviewed journal. (45 independent study hours per enrollment period). *Prerequisites: None.*

MSHP 5303 Health Care Policy for Clinicians **3 Credits**

Students will be given the opportunity to: 1) examine intricacies of health policy development, implementation and how various health policies affect their profession and patients; 2) define the federal, state, and local government's role in the development of health policy; 3) evaluate the current Medicare/Medicaid systems and identify how these systems affect the care they provide; 4) examine health policy and how it may affect the care given to minorities and the uninsured; 5) evaluate the current health care policy issues affecting women's health care; 6) review a comprehensive analysis of a health care policy; and 7) differentiate the health care policy issues affecting public health in the United States. (45 independent study hours per enrollment period). *Prerequisites: None.*

MSHP 5304 Thesis Project I **3 Credits**

Students will be given the opportunity to: 1) develop a medical database to identify focused peer-reviewed literature and journal articles; 2) synthesize scientific information; 3) analyze the research data; and 4) develop scientific writing skills. Students may choose from a wide variety of topics including but not limited to education or instructional applications, management, clinical research, equipment evaluation or performance, or focused reviews of the scientific literature. During the first portion of this course, students must work with an advisor to complete an approved project proposal. Credit for this course requires submission of a scientific paper in journal publication format including: abstract; introduction/background purpose; methods (for literature review projects the methods will include the search criteria and history); results; discussion/implications; conclusion; and an oral presentation to faculty and peers. (45 independent study hours per enrollment period). *Prerequisites: None.*

MSHP 5305 Thesis Project II **3 Credits**

Continuation of Thesis Project I. Students will be given the opportunity to: 1) discuss scientific information related to the literature review; 2) organize a scientific paper using the material in focused peer-reviewed literature and journal articles; 3) review the written material with peers to assess and critique the scientific paper; and 4) defend the scientific paper to the thesis committee. Students may choose from a wide variety of topics including but not limited to educational or instruction applications, management, clinical research, equipment evaluation or performance, or focused reviews of the scientific literature. During the first portion of this course, students must work with an advisor to complete an approved project proposal. Credit for this course requires submission of a scientific paper in journal publication format including: abstract; introduction/background purpose; methods (for literature review projects the methods will include the search criteria and history); results; discussion/implications; conclusion; and an oral presentation to faculty and peers. (45 independent study hours per enrollment period). *Prerequisites: MSHP 5304 Thesis Project I.*

MSHP 5501 Advanced Practice Practicum I – Education **5 Credits**

This graduate level course provides the student with the opportunity to: 1) identify traditional elements of education in the classroom; 2) interpret practical strategies for teaching and modes

of assessment; 3) distinguish between strategies in classroom management, such as coping with student behaviors in instructional settings; 4) analyze models of the curriculum design and summarize how to effectively apply the curriculum in the classroom; and 5) demonstrate educational experience in the classroom, laboratory, or clinical setting with peers. (75 lecture per enrollment period). *Prerequisites: None.*

MSHP 5502 Advanced Practice Practicum II – Management 5 Credits

This graduate level course provides the student with the opportunity to: 1) identify clinical case management strategies so students can apply nationally accepted clinical practice guidelines to the evaluation and treatment of patients; 2) develop decision-making and problem-solving skills; 3) evaluate conflict management techniques; and 4) demonstrate effective leadership and teamwork skills. (75 lecture hours per enrollment period). *Prerequisites: None.*

MSHP 5503 Advanced Practice Practicum III – Research 5 Credits

This graduate level course provides the student with the opportunity to: 1) compare experimental research methods and statistical analysis; 2) identify the challenges and ethical guidelines involved when conducting research on human subjects; 3) describe the history and terminology of research and the proper steps involved in the research process; and 4) identify research questions relevant to clinical practice. (75 lecture hours per enrollment period). *Prerequisites: None.*

MSHP 5504 Advanced Practice Practicum IV – Clinical Practice 5 Credits

This graduate level course provides the student with the opportunity to: 1) develop advanced clinical skills in his/her profession; 2) develop interpersonal communication skills with patients as well as other health care providers; 3) demonstrate clinical decision-making strategies in the care of the patient; 4) examine the importance of collaboration with other health care professionals in the coordination of care of patients; and 5) evaluate the ethical standards and record keeping of patient information, including the reporting of clinical information. (75 lecture hours per enrollment period). *Prerequisites: None.*

DPT Admissions Procedures

The Department of Physical Therapy at University of Texas Medical Branch participates in the Physical Therapist Centralized Application Service, known as PTCAS, effective July 2014. Applicants applying to the traditional and Bridge entry-level PT program will apply online using the PTCAS application. To learn more about the PTCAS application process, visit www.ptcas.org.

Admission to the UTMB DPT Traditional Program is a competitive process that requires the following steps:

- Complete a Bachelor's Degree and all pre-requisite courses by May of the year in which you wish to begin the program.
- Complete 40 hours of specific UTMB prerequisite courses with a grade of C or better. All Math and Science prerequisite credits must be less than 10 years old.
- Have a minimum of 3.0 overall GPA OR the GPA for the last 90 hours (we will use the higher of those two GPA scores)
- Have a minimum of 3.0 math/science GPA on all courses coded MATH, BIOL, CHEM, PHYS. (Kinesiology courses are not included in this calculation.)
- Submit the score of the Graduate Record Examination (GRE). GRE scores are valid for 5 years from date taken. UTMB DPT GRE code is 3775 for the PTCAS application.

- Submit 3 names with email addresses for online recommendations via the online application. At least one person must be a Physical Therapist who supervised your work or volunteer experience.
- Student honors and awards, professional and community involvement, and work/ volunteer experience will be submitted via the online application.
- At least 80 hours of volunteer or paid experience in a physical therapy setting are required for the traditional program.

Admission to the UTMB PTA to DPT Bridge Program is a competitive process that requires the following steps:

- Complete a Bachelor's Degree and all pre-requisite courses by 31 December of the year in which you apply.
- Complete 44 hours of specific UTMB prerequisite courses with a grade of C or better.
- Have a minimum of 3.0 overall GPA and PTA GPA.
- Have a minimum of 3.0 math/science GPA on all courses coded MATH, BIOL, CHEM, PHYS, and STATS (Kinesiology courses are not included in this calculation.)
- Submit the score of the Graduate Record Examination (GRE). GRE scores are valid for 5 years from date taken. UTMB PTA to DPT GRE code is 3775 for the PTCAS application.
- Submit 3 names with email addresses for online recommendations via the online application. At least one person must be a Physical Therapist who supervised your work experience and one references must be a PTA educator who taught you in your PTA program.
- Student honors and awards, professional and community involvement, and volunteer experience will be submitted via the online application.
- Complete a minimum of two years work experience as a PTA by the pre-req deadline.

Physical Therapy Prerequisites

To enter the Doctor of Physical Therapy Program at UTMB, a student must complete a baccalaureate degree including the following prerequisite courses.

You may contact our Admissions Chairs, Dr. Janna McGaugh at jamcgaug @utmb.edu or Dr. Michael Furtado at mifurtad@utmb.edu, or by calling (409) 772-3068, with any questions you have regarding prerequisites.

Mathematics and Natural Sciences - 34 hours			
Course	***TCCN****	***Hours***	***Notes***
General Chemistry for Science Majors	CHEM 1411 & 1412	8	Must include lab. Higher level classes accepted
College or University Physics	PHYS 1401 & 1402 or above	8	Must include lab
Biology for Science Majors	BIOL 1406 & 1407	8	Must include lab. Higher level classes accepted
Physiology		4	May be a Vertebrate, Chordate, Comparative or Human Physiology course. Must include lab. Must be a course for science majors. Two semesters Anatomy and Physiology I & II can be used to meet this requirement
College Algebra, Trigonometry, or Calculus	MATH 1414	3	Any of these courses are acceptable

(continued, next page)

Statistics		3	Upper level psychology sociology or education based is preferred. Must include ANOVA
Anatomy for Science Majors* (Bridge applicants)	Advanced Anatomy	4	Advanced Human Anatomy (beyond A&P I & II) including a lab, or Comparative Anatomy with lab, or Zoology with lab. Online course is acceptable. Anatomy & Physiology I and II will NOT satisfy this requirement.

Behavioral Sciences - 6 hours			
Course	***TCCN****	***Hours***	***Notes***
General Psychology	PSYC 2301	3	
Developmental Psychology	PSYC 2312 / 2314	3	Abnormal Psychology will not count

TCCN* Texas Common Course Number website can be used to review and compare course compatibility at **www.tccns.org**

Suggestions and Comments:

The following courses are not required, but if taken as electives, would provide a strong base for DPT curriculum:

- Sociology
- Anatomy
- Management
- Technical Writing
- Neuroscience
- Exercise Physiology
- Medical Terminology

Physical Education activities classes are neither counted as electives, nor used in the calculation of overall GPA.

Admission requirements for MSHP Physical Therapy track:

To be considered for admission to the Master of Science in Health Professions Program, applicants must present official documentation of the following:

- Bachelor of Science degree
- Current PT or PTA license
- Cumulative GPA: greater than or equal to 3.0 on a 4.0 scale
- Minimum acceptable GRE score. GRE code is 6887.
- Minimum acceptable TOEFL score (if English is a second language)
- Minimum of three letters of recommendation from practicing professionals in your field.
- Background check

Waiver request / Course Substitution Approval Process

An applicant may obtain approval of a course that does not exactly meet prescribed requirements if a waiver is requested and accepted. It is the applicant's responsibility to petition the UTMB PT Admissions Committee for course approval. This is done by submitting the waiver request identifying the course the applicant wishes to have waived and the course to be considered as a replacement. The request must include a course syllabus (not a course description). We may also ask you to submit the name of the textbook used in the course and or a course schedule.

Department of Respiratory Care

Chair and Associate Professor
José D Rojas, Ph.D., RRT

Associate Professor
Frank Ward, EdD, MSA, PA

Assistant Professor, Instruction
Bruce Adcock, M.Ed., RRT-NPS
Muzna Khan, M.S., RRT-ACCS
Daneen Nastars, M.S., RRT-ACCS
Melissa J. Yanes, M.S., RRT-ACCS

Clinical Associate Professor
Ronald P. Mlcak, Ph.D., RRT

Clinical Assistant Professor
Kenneth D. Hargett, M.B.A., RRT

Clinical Instructor
Adrian Gonzalez, BSRC, RRT
Marcella Herrera-Jaramillo, BS, RRT
Sonia Jiwani, BSRC, RRT-NPS
Sachin Patel, BSRC, RRT-ACCS
Jessica Ramirez, MBA, RRT

Adjunct Professor
Alex Duarte, M.D.
Aristides Koutrouvelis, M.D., FCCP
Donald Prough, M.D.

Professor Emeritus
Jon O. Nilsestuen, Ph.D., RRT

THE PROFESSION

Respiratory therapists work as part of the health care team in hospitals, cardiopulmonary diagnostic laboratories, rehabilitation centers, and home care agencies. They work with physicians and other health professionals in health care planning, evaluation, and treatment of patients with cardiac and pulmonary disorders.

As clinicians they perform therapeutic and life-support procedures, including the administration of oxygen and aerosolized medications, breathing treatments, chest physical therapy, and mechanical ventilatory support. In addition, they perform diagnostic tests that assess cardiac and lung function and operate physiologic monitoring equipment and life-support systems in the critical care setting.

ESSENTIAL FUNCTIONS

Respiratory Care Students must demonstrate numerous competencies representing all three learning domains: the cognitive, psychomotor and affective domains. Students learn, practice, and verify these competencies in a number of settings including the classroom, laboratory and clinic.

To achieve the required competencies in the classroom setting, respiratory care students must perceive, assimilate and integrate information from a variety of sources. These sources include oral

instruction, printed material, visual media, and live demonstrations. Students must participate in classroom discussions, give oral reports, and pass written and computer-based examinations of various formats. Completion of these tasks requires cognitive skills, such as reading, writing and problem-solving. To be physically capable of the classroom work, students must, with assistance, be able to: hear, see, speak, sit, and touch.

Respiratory care laboratories provide students with the opportunity to view demonstrations, evaluate and practice with medical devices and perform simulated clinical procedures. In addition to the cognitive skills required in the classroom, students, must demonstrate psychomotor skills in manipulating patients and equipment, as well as general professional behaviors, like team-building and interpersonal communication. To satisfy laboratory requirements, students must perform all procedures without critical error. This requires high levels of cognitive, perceptual, and psychomotor function. In addition to the physical capabilities for classroom work, the laboratories require students, with assistance to: assemble equipment, stand while using both hands to perform procedures, perform fine motor skills, and perform procedures requiring considerable strength. Examples of the latter procedures include: turning and moving patients, endotracheal intubation and cardiopulmonary resuscitation.

Clinical education in respiratory care involves application of skills acquired in the classroom and laboratory settings to actual patients in the clinical setting. In addition to the cognitive skills required in those settings, students must demonstrate skills in patient assessment, clinical reasoning, problem-solving, synthesizing care plans, and troubleshooting equipment. Professional behaviors required for clinical training include constructive responses to situations involving emergencies, deaths, stress, frustrating situations and complex interactions with other members of the health care team. Students must also demonstrate respect for others, empathy, responsibility, efficiency, integrity, and initiative. In addition to the physical capabilities required during the classroom and laboratory sessions, clinical training includes moving briskly between patient care areas and meeting the mental and physical demands of twelve-hour shifts, on both day and night rotations.

PROFESSIONAL CURRICULUM

The Program in Respiratory Care at the SHP offers three tracks: 1) a Foundation Program for applicants entering the field; 2) a Bridge Program for Registered Respiratory Therapists; and 3) several master's degree options including an MS in Health Professions for RRTs already possessing a bachelor's degree.

Foundation Program

This program is a "2 + 2" curriculum format for students entering the profession. Prospective students must first complete 49 semester credit hours of science and general prerequisites at another accredited institution. They are then eligible to apply for the Foundation Program. The professional portion of the curriculum normally consists of six consecutive semesters, please contact your advisor for additional information. The program is intended to provide students a foundation in anatomy, physiology, pharmacology, and clinical medicine as they pertain to respiratory care; to instruct them in the process of planning and evaluating patient care in conjunction with other members of the health care team; to develop decision-making and problem-solving skills; and to promote competency in the provision of respiratory care procedures. Entering classes begin in the fall semester of each year.

After completion of the course work and all curriculum requirements, with an overall minimum GPA of 2.0 and a 2.5 GPA in math & science courses, the degree of Bachelor of Science in Respiratory Care is conferred. Graduation from an accredited educational program and successful completion of the therapist multiple choice exam administered by the NBRC fulfills the eligibility requirements of the Texas Medical Board for state licensure as a respiratory care practitioner.

The AS to BSRC Bridge Program

This program is for graduates of other types of respiratory care programs who have passed the NBRC Registry examinations. There are both FULL TIME and PART TIME degree plans offered in the Bridge program; please contact your advisor for additional information. Entering Bridge Program students are credited with up to 54 semester credit hours of professional course work for their Associates degree in Respiratory Care. In order to qualify for the bachelor's degree in respiratory care they must complete an additional 32 hours of advanced coursework. In addition to the RRT credential, Bridge students must also complete the 49 semester credit hours of general and science prerequisite courses that are required of the Foundation Program students. Bridge Program students are eligible to apply for entrance during any semester.

Masters of Science in Health Professions with Specialty in Respiratory Care

This program will enable credentialed practitioners to obtain a rigorous graduate education that will complement their previous training and provide for career advancement opportunities in leadership as healthcare managers or executives within their organizations. The Master of Science in Health Professions program requires 30 to 33 hours; 15 hours of core courses, 15 hours of required coursework, and 2-3 hours of elective coursework. Course work focuses on management and education principles. To be considered for the Master of Science in Health Professions, applicants must present official documentation of the following: Bachelor's degree, GPA greater than or equal to 3.0 on a 4.0 scale, GRE score taken within the last five years, TOFEL score of 550 (if English is a second language), three letters of recommendation, and a 300-500 word essay describing professional goals and how the degree will accomplish these goals.

PROGRAM ACCREDITATION GOAL

The goal of the Respiratory Care Program is to prepare students as competent entry-level respiratory care practitioners. This goal includes three educational objectives:

1. Cognitive Domain—to prepare students with the ability to comprehend, apply, and evaluate clinical information relevant to their role as entry-level respiratory therapists
2. Psychomotor Domain—to prepare students with the ability to demonstrate technical proficiency in all the skills necessary to fulfill their role as entry-level respiratory therapists
3. Affective domain—to prepare students with the ability to demonstrate professional behaviors consistent with employer expectations as entry-level respiratory therapists

Additional Department/University goals include:

1. developing and disseminating new knowledge concerning the field of respiratory care, and
2. assisting the community in matters relating to the field of respiratory care by contributing expertise and services as needed.

ACADEMIC PERFORMANCE STANDARDS – RESPIRATORY CARE UNDERGRADUATES

Respiratory Care majors must complete all courses with a "RESC" prefix with a minimum grade of "C". If a grade lower than "C" is recorded, the student will be placed on scholastic probation and must repeat the course regardless of the overall GPA. Courses may not be repeated more than twice. In general the professional courses are offered only once a year. Any other scheduling requests must be approved by the department faculty and the Gradings and Promotion Committee. Please see the "Academic Progress" section of this bulletin for additional information regarding academic performance standards, scholastic probation, and dismissal policies.

Upon completion of all curriculum requirements with a minimum GPA of 2.0, the degree of Bachelor of Science in Respiratory Care is conferred.

All states regulate respiratory care practice. Conviction of a felony offense may result in ineligibility to receive licensure in Texas. Each case is considered on an individual basis by the Texas Medical Board (Respiratory Care Practitioner). For further information contact:

Respiratory Care Practitioners Certification Program Texas Medical Board
333 Guadalupe
Tower 3, Suite 610
Austin, Texas 78701, USA

ACADEMIC PERFORMANCE STANDARDS – MASTER OF SCIENCE IN HEALTH PROFESSIONS GRADUATE STUDENTS

See "Satisfactory Academic Progress in Graduate Programs" page 139.

COURSE OF STUDY

Students from other health-related majors may enroll in respiratory care courses with the consent of the instructor.

Department of Respiratory Care

Foundation Two-Year Program

JUNIOR YEAR

Fall Semester

RESC 3116	Respiratory Therapeutics Laboratory	1
RESC 3315	Respiratory Therapeutics	3
RESC 3412	Pulmonary Physiology	4
RESC 3413	Pathophysiology and Patient Assessment	4
RESC 3335	Respiratory Pharmacology	3
	TOTAL HOURS	**15**

Spring Semester

RESC 3124	Critical Care Instrumentation Lab	1
RESC 3125*	Graphics Interpretation Lab	1
RESC 3237	Pediatric Respiratory Care	2
RESC 3523	Clinical Application of Mechanical Ventilation	5
RESC 3621*	Physiologic Monitoring	6
	TOTAL HOURS	**15**

Summer Semester

RESC 3133*	Pulmonary Functions Laboratory	1
RESC 3235	Pulmonary Functions Clinic	2
RESC 3236	Diagnostic Procedures	2
RESC 3332*	Pulmonary Functions	3
RESC 3238	Introduction to Adult Clinical Practice	2
RESC 3239	Introduction to Pediatric Clinical Practice	2
	TOTAL HOURS	**12**

	JUNIOR TOTAL CREDITS	**TOTAL HOURS 42**

SENIOR YEAR

Fall Semester

RESC 4165*	Advanced Cardiac Life Support (ACLS)	1
RESC 4266	Pediatric Critical Care Clinical	2

RESC 4167	Specialty Rotation Clinical I	1
RESC 4248*	Introduction to Research	2
RESC 4265	Neonatal Respiratory Care	2
RESC 4444	Adult Critical Care Clinical I	4
	TOTAL HOURS	**12**

Spring Semester

RESC 4153*	NBRC-MCE Review	1
RESC 4355	Neonatal Critical Care (Clinical)	3
RESC 4356	Specialty Rotations Clinic II	3
RESC 4554	Adult Critical Care Clinical II	5
	TOTAL HOURS	**12**

Summer Semester

RESC 4268*	NBRC Clinical Simulations Review	2
RESC 4264*	Professional Issues	2
RESC 4361*	Rehabilitation and Home Care	3
RESC 4367*	Adult Critical Care Clinical III	3
RESC 4368*	Clinical Internship and Specialty Rotations III	3
	TOTAL HOURS	**13**

SENIOR YEAR TOTAL CREDITS	**37**
TOTAL PROGRAM CREDITS	**79**

**AS to BSRC Bridge Program Credits: 33 credits*

Note: RESC 4367 - ACC III can be met by a Clinical Portfolio: Clinical competencies in 2 specialty areas (ACC, PICU, NICU, Sleep, Diagnostic procedures, Clinical Staff Education, Advances floor, Burn, Homecare, LTC, etc.)

Note: RESC 4368 Internship and Specialty can be met by completing any of these advanced credentials: NPS, ACC, SDS, AE-C, CPFT (if not previously achieved) RPFT.

Bachelor's Degree Admission Requirements

To be considered for admission to the Bachelors Program in Respiratory Care, all applicants must present official documentation of the following:

1. 49 semester hours of specified prerequisites from an accredited college or university
2. A minimum cumulative grade point average (GPA) of 2.0 on a 4.0 scale. Preferred 2.5 GPA.
3. Bridge applicants must present their NBRC Registry Credential
4. Please note: a grade of "C" or higher is required to satisfy any prerequisite
5. Please contact the department for transcript evaluation

Program Prerequisites

These are the prerequisites required of both AS to BSRC Program and Foundation Program applicants:

College Algebra	3
English Composition	6
Humanities or Literature	6
General Chemistry with Lab	4
Human Anatomy and Physiology with Lab	4
Medical Terminology	1
Microbiology with Lab	4

Social / Behavioral Science	6
United States History (may include Texas History)	6
United States Government (must include Texas Government)	6
Visual & Performing Arts	3
TOTAL PREREQUISITE SEMESTER CREDIT HOURS	**49**

To check if your courses meet our prerequisite credits, visit the Texas General Education Core Web Center http://www.thecb.state.tx.us/apps/tcc/.

Course Descriptions:

(In numerical sequence; hours of lecture, lab, clinical, conference, discussion or seminar may be substituted by one or more learning activities; see course syllabus for details.)

RESC 3010 Medical Terminology 1-3 Credits

The student will be given the opportunity to acquire the ability to: 1) define medical symbols, abbreviations, roots, prefixes, and suffixes; 2) explain the terminology of diseases, operations, symptomatology, pharmacology, and anesthesiology; and 3) describe general health facility terminology and the terms of community health. (15–45 lecture hours per enrollment period). *Prerequisites: Enrollment in the Respiratory Care Program or permission from the instructor.*

RESC 3116 Respiratory Therapeutics Laboratory 1 Credit

This course is a laboratory course for respiratory therapeutics for pre-clinical practice. See RESC 3315 for detailed description. To complete the course, students are required to successfully pass all assigned laboratory competencies. Credit for this course will be based on quizzes, examination, and assignments. (45 lab hours per enrollment period). *Prerequisites: None.*

RESC 3124 Critical Care Instrumentation Laboratory 1 Credit

This laboratory course provides the student the opportunity to develop skills related to respiratory care procedures and equipment currently applied in adult, pediatric, and neonatal critical care settings. The student is evaluated on his or her performance of invasive procedures, such as arterial puncture and intubation, as well as assembly and operational verification of a variety of mechanical ventilators. To complete the course, students are required to successfully pass all assigned laboratory competencies. Credit is based on laboratory assignments, quizzes, and examinations. (45 lab hours per enrollment period). *Prerequisites: None*

RESC 3125 Graphics Interpretation Laboratory 1 Credit

This course is a laboratory course to supplement RESC 3523. Credit for this course will be based on laboratory performance. This course provides the student with lab exercises on mechanical ventilation modes and graphics interpretation based on patient's needs, pulmonary physiology and hemodynamic status. (45 lab hours per enrollment period). *Prerequisites: None.*

RESC 3133 Pulmonary Functions Laboratory 1 Credit

Laboratory and clinical sessions support lecture topics and provide the students opportunities to develop technical operations skills, practice quality control measures and perform actual testing regimes. See RESC 3332 for detailed description. Credit for the course is based on laboratory performance. See corresponding lecture course RESC 3332. (4 lab hours per week per enrollment period). *Prerequisites: None.*

RESC 3235 Pulmonary Function Clinic 2 Credits

This course complements the Pulmonary Functions didactic class by providing an opportunity for students to practice designated pulmonary function tests in a hospital-based pulmonary functions laboratory. Students will have the opportunity to: 1) perform spirometry tests following American Thoracic Society (ATS) performance and acceptability guidelines; 2) perform lung volume tests using nitrogen washout and body-plethysmography techniques; 3) perform diffusion capacity tests; 4) describe and demonstrate proper patient instruction techniques for each test; 5) develop basic interpretation skills through the submission of graphic reports and case studies; and 6) identify and perform procedures to ensure that testing equipment meet calibration and quality- assurance guidelines. (80 clinical hours per enrollment period). *Co-requisites: RESC Pulmonary Functions Lab.*

RESC 3236 Diagnostic Procedures 2 Credits

This intermediate course provides the student with the opportunity to:1) Determine the heart rate and rhythm on a 12-lead EKG; 2) Determine the axis and measure the intervals; 3) Identify benign arrhythmias; 4) Identify the lethal arrhythmias and understand the effects of the drugs used to manage these arrhythmias; 5) Recognize the various types, locations, and degrees of severity of acute myocardial infarctions; 6) Recognize EKG manifestations of serum electrolyte disturbances; 7) Interpret basic radiographic procedures of the chest including chest X-rays, CT scans, MRI scans, and ventilation-perfusion scans, and 8) recognize the importance of an appropriate and timely referral. (30 lecture hours per enrollment period). *Prerequisites: None.*

RESC 3237 Pediatric Respiratory Care 2 Credits

This advanced-level course provides the student the opportunity to acquire knowledge and skills relating to the diagnosis and management of pediatric patients. Lecture topics include physiologic and anatomic development, diagnosis, and management of pediatric disorders, mechanical ventilation, and specialized equipment. Credit for this course is based on written examinations and assignments. (30 lecture hours per enrollment period). *Prerequisites: None*

RESC 3238 Introduction to Adult Clinical Practice 2 Credits

This introductory clinical course provides the student with the opportunity to develop general patient assessment and therapeutic skills in the patient care setting. Students will have the opportunity to: 1) develop patient assessment skills using data available in the routine care setting, 2) prepare case presentations and patient documentation on a weekly basis, 3) develop skills in delivering routine care, including oxygen and aerosol therapy, secretion clearance and lung expansion, 4) develop and practice skills in assembling, using and troubleshooting medical devices, 5) participate in reflective self-evaluation. *Prerequisites: AHA Basic Life Support Certification and completion of all junior level spring courses with grades of "C" or better.*

RESC 3239 Introduction to Pediatric Clinical Practice 2 Credits

This introductory clinical course provides the student with the opportunity to develop general patient assessment and therapeutic skills in the patient care setting. Students will have the opportunity to: 1) develop patient assessment skills using data available in the routine care setting, 2) prepare case presentations and patient documentation on a weekly basis, 3) develop skills in delivering routine care, including oxygen and aerosol therapy, secretion clearance and lung expansion, 4) develop and practice skills in assembling, using and troubleshooting medical devices, 5) participate in reflective self-evaluation. *Prerequisites: AHA Basic Life Support Certification and completion of all junior level spring courses with grades of "C" or better.*

RESC 3315 Respiratory Therapeutics 3 Credits

This intermediate course provides the student with the opportunity to acquire knowledge and skills necessary to perform basic respiratory therapeutic procedures. Topics include oxygen therapy, humidity and aerosol therapy, breathing exercises, postural drainage and percussion, and hyperinflation therapy. Credit for this course will be based on didactic quizzes, examinations, and assignments. (45 lecture hours per enrollment period). *Prerequisites: Consent of the instructor.*

RESC 3332 Pulmonary Functions 3 Credits

This intermediate course provides the student an opportunity to extend knowledge and skills in the utilization and application of design principles, operation, maintenance, and quality control of pulmonary function, blood gas, gas analysis, and metabolic monitoring equipment commonly found in pulmonary diagnostic laboratories. Credit for the course is based on didactic examinations. See corresponding laboratory course RESC 3133. (3 lecture hours per week per enrollment period). *Prerequisites: None*

RESC 3335 Respiratory Pharmacology 3 Credits

This course emphasizes the basic principles of Respiratory Pharmacology including: regulatory agents, dosage calculations and the physiology of the autonomic nervous system. Major topics include: sympathomimetics, parasympatholytics, xanthines, neruomuscular blocking agents, prostaglandins, mucokinetics, corticosteroids, cromolyn sodium, and other bronchoactive agents. Addtionally, CNS, cardiovascular, and antimicrobial agents are included. *Prerequisites: None*

RESC 3412 Pulmonary Physiology 4 Credits

An intermediate course providing the student an opportunity to obtain knowledge related to pulmonary physiology. Lectures will include presentations of the structure and function of the normal lung, lung mechanics, gas diffusion and transport, ventilation/ perfusion relationships, blood-gas regulation, and ventilatory control. Demonstrations support lecture topics using a variety of laboratory and animal models. Credit for this course will be based on didactic quizzes, examinations, and laboratory reports. (60 lecture and 12 demonstration lab hours per enrollment period). *Prerequisites: None.*

RESC 3413 Pathophysiology and Patient Assessment 4 Credits

This introductory course provides the student an opportunity to obtain knowledge, skills, and practice related to patient assessment, patient care plans, and the pathophysiology of cardiopulmonary diseases. Students will have the opportunity to: 1) review patients' charts and correctly interpret data obtained from the history, physical examination, laboratory test results, and progress notes; 2) describe the similarities and differences in obstructive and restrictive pulmonary diseases; 3) describe the pathophysiological processes of common pulmonary diseases; 4) differentiate between disease processes on the basis of clinical manifestations and laboratory findings; 5) identify the physiological manifestations of specific disease states; and 6) evaluate acutely and chronically ill patients based on laboratory findings, physical examination, chest X-ray findings, and pulmonary function studies. Credit hours (4) to include: 60 lecture hours). *Prerequisites: None.*

RESC 3523 Clinical Applications of Mechanical Ventilation 5 Credits

This intermediate course provides the student with an opportunity to develop knowledge and skills necessary for the initiation, application and monitoring of mechanical ventilation. Lecture topics include: electronic, pneumatic, and functional principles of operation and use of accessory monitoring equipment. Additional lecture topics include: clinical indications for

mechanical ventilation, intubation, airway maintenance and clearance techniques, physiologic effects of mechanical ventilation, monitoring parameters, and weaning techniques. Special case presentations will support the integration of pathologic conditions treated with ventilatory techniques. (75 lecture hours per enrollment period). *Prerequisites: None*

RESC 3621 Physiologic Monitoring 6 Credits

This upper-level course provides the student an opportunity to develop skills related to medical instruments and their use in monitoring physiologic parameters and in diagnostic procedures. The course includes principles of pressure monitoring, cardiac output monitoring, end tidal gas analysis, blood gas analysis, pulse oximetry, transcutaneous monitoring, metabolic assessments, fiberoptic bronchoscopy, lung biopsy, ventilation/ perfusion scans, exercise stress testing, cardiac catheterization, and extracorporeal circulation. In addition, this course includes lecture topics from advanced pulmonary physiology with particular emphasis on ventilation/ perfusion relationships. Credit for this course will be based on didactic examinations, student presentations, and course papers. See corresponding laboratory course RESC 3125. (75 lecture hours per enrollment period). *Prerequisites: None*

RESC 4090 Topics in Respiratory Care 1-4 Credits

This upper-level course provides the student with the opportunity to broaden his or her understanding of his or her role as a health professional by: 1) participating in a variety of learning experiences including seminars, lectures, public speeches, and independent study; 2) demonstrating the ability to gather information on health-related topics and issues, analyze that information, and present findings or conclusions. Such studies may be directly related to the student's professional discipline, or they may deal with concepts, issues, and trends in allied health sciences. The course may be repeated for credit when content varies. (15–60 hours per enrollment period – hours are arranged) *Prerequisites: None.*

RESC 4093 Independent Study 4-8 Credits

This upper-level course provides the student with the opportunity to pursue specialty areas such as management, education, and clinical research. The student must meet with program faculty for selection of the specific course material and the development of an educational plan prior to enrolling in the course. Arrangements for preceptor ships in management or medical supervision for clinical research will be made through affiliated institutions. (60–120 hours per enrollment period). *Prerequisites: None*

RESC 4153 NBRC-MCE Review 1 Credit

This upper-level course provides the opportunity to assess the student's competency in registry-level respiratory care skills. The student who has successfully completed the first four semesters is required to take and pass the registry comprehensive examination. This examination is parallel to the National Board for Respiratory Care Registry Examination. The student will be allowed up to three attempts to achieve a passing score on the examination. (15 lecture hours per enrollment period). *Prerequisites: Successful completion of junior-level courses and fall semester of senior year.*

RESC 4165 Advanced Cardiac Life Support (ACLS) 1 Credit

This upper-level course provides the student with the opportunity to acquire knowledge and skills related to emergency care procedures for treating patients in cardiovascular distress and/ or respiratory failure. Completion of the course requires that the student pass the certification in Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS). *Prerequisites: AHA Basic Life Support (BLS) Certification*

RESC 4167 Specialty Rotation Clinical I **1 Credit**

This clinical rotation reinforces the Physiologic Monitoring lecture course and provides the student with supervised experience and practice in physiologic monitoring and diagnostic techniques. Students will follow scheduled rotations through several specialty areas. (140 hours per enrollment period). *Prerequisites: Successful completion of summer clinical courses.*

RESC 4248 Introduction to Research **2 Credits**

The overall purpose of this course is to give the student the opportunity to demonstrate skills in: 1) the interpretation and evaluation of scientific studies in his or her discipline; 2) the design and conduct of research investigations; and 3) the use of current modes of information gathering and communication. (15–30 seminar hours per enrollment period). *Prerequisites: Enrollment in the Respiratory Care Program or permission from the instructor.*

RESC 4264 Professional Issues **2 Credits**

This course introduces the student to research and publication procedures, and explores current research literature relevant to the respiratory care profession. Research articles are discussed to clarify issues involving various aspects of the profession, as well as research methods. The issues explored relate to global health care, accreditation, credentialing processes, management, education, and clinical practice. (45 lecture hours per enrollment period). *Prerequisites: None.*

RESC 4265 Neonatal Respiratory Care **2 Credits**

This advanced-level course provides the student the opportunity to acquire knowledge and skills relating to the diagnosis and management of neonatal patients. Lecture topics include physiologic and anatomic development, diagnosis, and management of neonatal disorders, mechanical ventilation, and specialized equipment. Credit for this course is based on written examinations and assignments. (30 lecture hours per enrollment period). *Prerequisites: Successful completion of all summer clinical courses.*

RESC 4266 Pediatric Critical Care Clinical **2 Credits**

This upper-level course provides the opportunity to assess the student's competency in registry-level respiratory care skills. The student who has successfully completed the first four semesters and the entry-level comprehensive examination is required to take and pass the registry comprehensive examination. This examination is parallel to the National Board for Respiratory Care Clinical Simulation exam. The student will be allowed up to three attempts to achieve a passing score on the examination. (15 lecture hours per enrollment period). *Prerequisites: Successful completion of all summer clinical courses.*

RESC 4268 NBRC Clinical Simulation Review **2 Credits**

This upper-level course provides the opportunity to assess the student's competency in registry-level respiratory care skills. The student who has successfully completed the first four semesters and the NBRC-MCE Review course is required to take and pass the registry comprehensive examination. This examination is parallel to the National Board for Respiratory Care Clinical Simulation exam. The student will be allowed up to three attempts to achieve a passing score on the examination. (15 lecture hours per enrollment period). *Prerequisites: Successful completion of RESC 4153 NBRC-MCE Review course.*

RESC 4354 Neonatal Critical Care Clinic 3 Credits

The student will have the opportunity, under guided supervision in the NICU to: 1) assess indications for and deliver aerosol and oxygen therapies; 2) perform airway clearance maneuvers; 3) provide traditional ventilatory support with emphasis on initiation, monitoring, and discontinuance; 4) provide advanced ventilatory techniques that may include non-invasive positive-pressure ventilation, high-frequency oscillatory ventilation, and nitric oxide administration; 5) interpret patient data, including X-rays, blood gas data, and ventilator graphics;. 6) Includes neonatal simulation laboratory time weekly. Evaluation is competency-based. (240 hours per enrollment period). *Prerequisites: RESC 4265 Neonatal Respiratory Care and RESC 4245 Pediatric Critical Care Clinic.*

RESC 4356 Specialty Rotation Clinical II 3 Credits

This clinical rotation is a continuation of Specialty Rotation Clinic I and provides the student the opportunity to refine skills and demonstrate competency in performing diagnostic and monitoring techniques. (120 hours per enrollment period). *Prerequisites: RESC 4444 Adult Critical Care Clinical I and RESC 4167 Specialty Rotation Clinical I.*

RESC 4361 Rehabilitation and Home Care 3 Credits

This upper-level course provides the student with the opportunity to develop knowledge and skills related to long-term care and chronically ill and/or debilitated pulmonary patients. Lecture topics include: exercise testing and prescription, components of rehabilitation programs, home care concepts, reimbursement, and specialized home care procedures. Credit for this course is based on assignments, quizzes, and examinations. (45 lecture hours per enrollment period). *Prerequisites: None*

RESC 4367 Adult Critical Care Clinical III 3 Credits

This course provides students with the opportunity to further develop clinical knowledge and skills in caring for adult patients in emergency and critical care settings. The student

will have the opportunity to: 1) apply patient care protocols in the delivery of oxygen therapy, aerosol therapy, and lung clearance; 2) evaluate monitoring data and appropriately manage patients receiving mechanical ventilation; 3) demonstrate proper application of evidenced-based weaning protocols; and 4) review and evaluate patient care plans based on standards of care such as the American Association for Respiratory Care (AARC) Clinical Practice Guidelines or other nationally accepted guidelines for diagnosis and treatment (e.g., guidelines for asthma, chronic obstructive pulmonary disease, pneumonia). (120 clinical hours). *Prerequisites: RESC 4554 Adult Critical Care Clinical II or Bridge student status.*

RESC 4368 Clinical Internship and Specialty Rotations III 3 Credits

This clinical internship provides the student the opportunity to: 1) refine clinical assessment skills; 2) apply nationally accepted clinical practice guidelines to the evaluation and treatment of patients; 3) develop the skills necessary to attempt specialty credentialing examinations (e.g., the Neonatal Pediatric Specialists (NPS) and Registered Pulmonary Function Technologist (RPFT) credentials offered through the National Board for Respiratory Care, or the Asthma Educator Certification (AE-C). (120 hours per enrollment period). *Prerequisites: Successful completion of RESC 4554 Adult Critical Care Clinic II, RESC 4266 Pediatric Critical Care Clinic, RESC 4354 Neonatal Critical Care Clinic and ACLS certification.*

RESC 4444 Adult Critical Care Clinical I 4 Credits

This clinical practicum provides the student the opportunity to develop knowledge and skills in patient assessment and delivery of therapeutics in the adult critical care areas. The student practices under direct supervision in medical, surgical, and cardiovascular ICU areas. The student will have opportunity to: 1) observe bedside diagnostic procedures, including fiberoptic bronchoscopy, arterial blood gases, and transport procedures; 2) manage the patient-ventilator system including: initiation, maintenance, monitoring, and discontinuance procedures; 3) establish and maintain artificial airways; 4) perform secretion clearance maneuvers; 5) administer aerosolized medications; and 6) participate in patient care rounds and case study presentations with critical care physicians. Evaluation is based on successful completion of designated competencies. (120 clinical hours per enrollment period). *Prerequisites: Successful completion of all summer clinical courses. ACLS training.*

RESC 4554 Adult Critical Care Clinical II 5 Credits

This clinical practicum provides the student the opportunity to further develop clinical knowledge and skills in caring for adult patients in critical care settings and in the Emergency Department. The student will have opportunity to 1) manage the patient-ventilator system to include: initiation, maintenance, monitoring, and discontinuance; 2) establish and maintain artificial airways; 3) apply secretion clearance maneuvers to ventilated patients; 4) participate in transport of critical care patients; 5) administer medications to ventilated critical care patients; 6) participate in patient care rounds and case study presentation with critical care physicians; and 7) demonstrate "supervised independence" in managing patients with a 0.5 full-time-equivalent patient assignment. Evaluation is competency based. (120 hours per enrollment period). *Prerequisites: RESC 4444 Adult Critical Care Clinic I and successful completion of RESC 4165 ACLS.*

Division of Rehabilitation Sciences

Professor and Director
Kenneth Ottenbacher, OTR, Ph.D.

Associate Professor
Soham Al Snih, M.D., Ph.D.
Amol Karmarkar, OTR, MPH, Ph.D.

Assistant Professor
Rachel Deer, Ph.D.
Brian Downer, Ph.D.
Monique Pappadis, Ph.D.

Rehabilitation science, as defined by the Institute of Medicine, encompasses "basic and applied aspects of health services, social sciences, and engineering as they are related to restoring human functional capacity and improving a person's interaction with the surrounding environment."1 As such, rehabilitation science is by definition interdisciplinary and extends beyond the boundaries of traditional academic departments.

The Division of Rehabilitation Sciences is housed in the School of Health Professions and was created in 2001 to administratively support the Center for Recovery, Physical Activity, and Nutrition (formerly Center for Rehabilitation Sciences) and the Ph.D. program in rehabilitation sciences offered through the Graduate School of Biomedical Sciences. The division also recruits postdoctoral fellows who wish to engage in rehabilitation research. Forty-nine students have been enrolled in the PhD program since 2001 and 34 degrees have been conferred. Fifty-three postdoctoral fellows have been accepted and 45 have completed the training program.

Reference

1. Brandt EN, Pope AM. *Enabling America: Assessing the Role of Rehabilitation Science and Engineering*. Washington, DC: National Academy Press, 1997.
2. Field MJ, Jette AM (eds). *The Future of Disability in America*. Washington (DC): National Academies Press, 2007.

Admission Policies

Specific admission policies for Clinical Laboratory Sciences, Master of Science in Health Professions, Nutrition & Metabolism, Occupational Therapy, Physical Therapy and Respiratory Care can be found under their respective program sections.

Academic Policies

ALL PROGRAMS

The SHP faculty is responsible for determining grading criteria. The grading of written, oral, and practical examinations forms an important framework for evaluating skill and competence.

In addition, professional behaviors and attitudes, including effective communication and interpersonal skills, ethical decision-making, respect for the diversity and values of others, and a fundamental respect for human dignity, are viewed as essential for competent and effective practice within the health care professions. These characteristics will be considered by the faculty in the determination of course grades and a student's eligibility for graduation. Any student whose behavior in class or in required clinical, preceptorship, or fieldwork placements is found to be deficient in one or more of these areas may be subject to academic review on the recommendation of faculty and the school's Gradings and Promotion Committee.

The SHP encourages and supports students in accomplishing excellent work. It is recognized, however, that the student may encounter difficulty from time to time. In such cases the student's advisor, Department Chair, and the Office of Academic and Student Affairs stand ready to assist him or her whenever and wherever possible.

Course Attendance and Absences

Each program determines attendance requirements. These appear on one or more of the following: student handbook, course syllabi, and student announcements. Clinical rotations or preceptorships may require student attendance on days otherwise designated as school holidays.

The Texas Education Code provides that students shall be excused from attending classes or other required activities, including examinations, for the observance of a religious holy day or for military duty, including travel for that purpose. A student whose absence is excused for these reasons will not be penalized for that absence and will be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

Satisfactory Academic Progress in Undergraduate Programs

A minimum GPA of 2.0 in all SHP courses is required to graduate with a baccalaureate degree from the school. A grade of "C" or better is required in all courses. In some cases, a "B" or better may be required for specific courses. Refer to course syllabi. The following temporary grades convert to "F" after the prescribed period: Incomplete "I," Not Reported "NR," In Progress "G," and Retest Permitted "R." The effect of the grades of Withdrawn "W" and Permanent Incomplete "INC" are described below.

Undergraduate Good Standing

Undergraduate students in good standing in baccalaureate programs in the School of Health Professions must:

- maintain a GPA of 2.0 during each semester or term;
- earn either a "C" or better or "P" (satisfactory grade) in all courses; and
- have a cumulative GPA of 2.0 or higher (required for graduation).

Undergraduate Academic Probation

Undergraduate students will be placed on academic probation during the subsequent enrollment period (fall, spring, or summer semester) if they receive a grade of less than C, or achieve a GPA below 2.0.

Undergraduate Students on Academic Probation

An undergraduate student is removed from academic probation at the end of the next grade-reporting period during which he or she is registered upon:

- receiving a "C" or better in all courses;
- attaining a cumulative GPA of 2.0 or better; and
- successfully completing any special assignments or conditions required by the department.

The student's department reserves the right to require the student to demonstrate acceptable levels of achievement in specific skills in order to be removed from scholastic probation. In such a case, the instructor, with the Department Chair's approval, will produce for the student a written statement of the extent of these special assignments and forward a copy to the Associate Dean for Academic and Student Affairs.

Should an undergraduate student on academic probation fail to obtain a cumulative GPA of 2.0 or better, but meets all other conditions, the student will remain on academic probation through the next grade-reporting period, at which time the cumulative GPA of 2.0 must be obtained or the student will be subject to dismissal. A full-time undergraduate student on academic probation will not be permitted to take more than 12 semester credit hours during a regular semester or full summer session, nor more than 6 semester credit hours during a shortened summer term, except in unusual and extenuating circumstances and with written approval of and under conditions prescribed by the student's Departmental Chair and approved by the Associate Dean for Academic and Student Affairs.

Undergraduate Students Subject to Academic Suspension/Dismissal

Undergraduate students are subject to academic suspension or dismissal if they:

- earn a final course grade of "F" during any given registration period, regardless of academic probation standing.
- earn a final course grade of less than "C" while on academic probation;
- earn less than a grade of "C" in three or more courses cumulatively over all registration periods;
- receive a third grade of "W" or "INC" in the same course or overall;
- fail to remove himself or herself from academic probation after two consecutive registration periods; or
- fail to meet any of the conditions prescribed by the Department Chair.

Students dismissed for unsatisfactory academic performance may apply for readmission on a competitive basis.

Satisfactory Academic Progress in Graduate Programs

A minimum GPA of 3.0 in all SHP courses is required to graduate with a graduate degree from the school. A grade of "B" or better is required in all courses. Refer to course syllabi. The following temporary grades covert to "F's" after the prescribed period: Incomplete "I," Not Reported "NR," In Progress "G," and Retest Permitted "R." The effect of the grades of Withdrawn "W" and Permanent Incomplete "INC" are described below.

Graduate Good Standing

Graduate students in good standing in the School of Health Professions must:

- maintain a GPA of 3.0 during each semester or term;
- earn either a "B" (or better) or "P" (satisfactory grade) in all courses; and
- have a cumulative GPA of 3.0 or higher (required for graduation).

Graduate Academic Probation

The graduate student who earns a "C" will be placed on academic probation during the subsequent enrollment period.

Graduate Students on Academic Probation

A graduate student is removed from academic probation at the end of the next grade reporting period during which he or she is registered upon:

- receiving a grade of "B" or better in all courses;
- attaining a cumulative GPA of 3.0 or better; and
- successfully completing any special assignments or conditions required by the department.

Graduate Students Subject to Dismissal

Graduate students are subject to dismissal if they:

- earn a grade of "C" or below or a second unsatisfactory grade while on academic probation;
- earn a final course grade of "F" during any given registration period;
- earn a grade of "C" in two courses in one or more semesters
- receive a second grade of "W" or "I" in the same course or overall;
- fail to achieve a 3.0 GPA or above for the term they are on academic probation; or
- fail to meet any of the conditions prescribed by the Department Chair or under which they were admitted to the program.

Graduate students subject to dismissal may not proceed to the next enrollment period. Re-enrollment in the course in which an unsatisfactory grade was earned must be approved by the student's departmental faculty and recommended to the SHP Gradings and Promotion Committee. Students allowed to re-enroll are on academic probation. Students dismissed for unsatisfactory academic performance may apply for readmission on a competitive basis or under special circumstances outlined by the Gradings and Promotion Committee.

Course Grade Symbols and Meanings

A Undergraduate and Graduate Programs: Excellent. Numerical range 90-100; earns 4 GPA points per semester credit hour.

B Undergraduate and Graduate Programs: Good. Numerical range 80-89; earns 3 GPA points per semester credit hour.

C Undergraduate Programs: Satisfactory. Numerical range 70-79; earns 2 GPA points per semester credit hour.

Graduate Programs, Didactic courses: Marginal. Numerical range 70-79; earns 2 GPA points per semester credit hour.

Graduate Programs, Clinical courses: Unsatisfactory. Numerical range anything less than 80; earns 0 GPA points and is recorded as an "F".

D Undergraduate Programs Didactic and Clinical Courses: Unsatisfactory. Numerical range 60-69; earns 1 GPA points per semester credit hour.

Graduate Programs Didactic and Clinical Courses, Not assignable.

F Undergraduate Programs: Unsatisfactory. Numerical range 0-59; earns 0 GPA points.

Graduate Programs Didactic and Clinical Courses, Not assignable.

CR Undergraduate and Graduate Programs: Credit granted. Not included in the GPA calculation.

G Undergraduate and Graduate Programs: Applies to clinical experiences/rotations scheduled to be in progress at the conclusion of a semester/session/term when course grades are usually assigned. Not included in GPA or Dean's List calculations.

I Undergraduate and Graduate Programs: Incomplete. This symbol may be assigned by the instructor when the student is progressing satisfactorily but, for reasons beyond the student's control, the submission of an assignment, or the taking of an examination must be delayed, or for reasons acceptable to the instructor, the completion of the course must be delayed for a brief period of time not to exceed six (6) weeks. Not included in the GPA calculation. The "I" is a temporary symbol and reverts to an "F" unless the course is completed and a grade is filed. The student with two or more incompletes may not register for a full course load during the period allowed to complete coursework, but must reduce his/her course load by the number of incomplete semester credit hours. See "INC" below.

INC Undergraduate and Graduate Programs: Permanent Incomplete. Following the appropriate assignment of an Incomplete, it may be replaced by INC for valid reasons including, but not limited to program revisions, dismissal, suspension, leave of absence, withdrawal from the program, the course is no longer offered by the department, the course is no longer required by the student's program.

NR Undergraduate and Graduate Programs: Not Reported. Grade not reported by the instructor at the time of the submission of the grade roster for the class. Not included in the GPA calculation.

P/F Undergraduate and Graduate Programs: Pass/Fail. P not included in the GPA calculation; F is treated as a failing grade.

R Undergraduate and Graduate Programs: Reexamination permitted. Not included in the GPA calculations. When a student fails the final examination in a course, a request for a temporary delay of the final course grade and reexamination may be permitted subject to the following provisions:

- The undergraduate student must have at least a "C" average on all work in the course other than the final examination and graduate students must have at least a "B" average.
- Approval must be granted by the course instructor. Approval is entirely at the discretion of the course instructor. If reexamination is granted, this permission is reported to the Office of the Registrar using the symbol "R."
- The reexamination must be given at the earliest possible date agreed upon by the student and the course instructor. In no event will the reexamination be given later than the end of the registration period following the one in which the course was taken. Absence from the reexamination will result in a grade of "F" unless the student presents to his or her Department Chair a satisfactory excuse for the absence within one week after the scheduled reexamination date.
- The student's grade on the reexamination shall be substituted for the original final examination grade.

W Undergraduate and Graduate Programs: Withdrawal. Assigned when the student withdraws from a course within the applicable deadline. Not included in the GPA calculation.

EXAMINATIONS

Course Exams

All examinations, projects, and assignments submitted by a student are considered to be the student's own product, prepared without unauthorized assistance. During examination periods the student is expected to remain in the classroom or designated testing area, to refrain from talking, and to place all notes and books where they are not accessible during the examination period. Exceptions to these rules may be given orally or in writing by an instructor, if in his or her judgment the rules should be revised to fit the situation.

The exact mechanisms of grading examinations vary among the departments. The course content, its objectives, and the student requirements to complete the course successfully are presented by the instructor at the beginning of the course.

Final Examinations

Administration of a final examination is optional at the discretion of the individual course instructor. If a final examination is given, all students are required to take the final examination unless a uniform exemption policy is announced to the class in advance of the examination date. Final examinations may be comprehensive and may test any amount of information presented in the course. Students may be examined on information presented in the preceding enrollment period in courses that extend over two enrollment periods if specifically informed of this fact by their instructors at the beginning of the second enrollment period. Students may be eligible for a retest of the final examination in certain situations, at the instructor's discretion. Please refer to the section on 'Course Grade Symbols and Meanings' under Academic Policies in this section.

A final examination will not be weighted more than 40 percent of the final course grade unless specifically approved by the SHP Gradings and Promotion Committee.

The final examination period for the fall and spring semesters is four days long (Tuesday through Friday). Monday is a study day; no classes are scheduled. Individual departments are responsible for scheduling examinations for summer terms I and II and when periods of instruction vary from the published school academic calendar. Students will be informed of the examination period and examination schedule for such periods of instruction.

CLINICAL EVALUATIONS

In addition to evaluating a student's knowledge and skills, faculty determine whether the student's performance in the treatment or care of patients is acceptable for the expectations and standards of the professional field to which the student seeks admission.

A passing grade for a course cannot be earned when unacceptable or unsatisfactory professional performance in the treatment or care of patients has been observed, even if grades on tests or other evaluations are satisfactory. A student who receives an unsatisfactory evaluation because of unacceptable or unsatisfactory professional performance in the treatment or care of patients will be subject to immediate reassignment, academic probation, or academic withdrawal.

COURSE SEQUENCE

Once admitted to a program of study, each student is required to follow an approved degree or certificate plan. These plans follow a designated sequence that is influenced by accreditation standards, the availability and scheduling of clinical or applied field-based coursework, the professional judgment of faculty, and the need to use limited resources wisely. These designated sequences limit individual student discretion in the selection and completion of courses of study because most courses are offered only once per year.

QUANTITY OF WORK

The student must register for all professional courses offered in the prescribed curriculum for any given semester or summer session unless officially approved and enrolled as a part-time or non-degree-seeking student or unless he or she receives written permission from the Departmental Chairperson or the Associate Dean for Academic and Student Affairs, or both.

REPETITION OF A COURSE

Departments may offer courses that may be repeated for credit when content changes or they allow students to gain additional clinical experiences.

If a student must repeat a course, for example to overcome an unsatisfactory grade, both the initial and subsequent grades shall be included in computing the student's GPA.

A student may not repeat for credit a course in which he/she earned a satisfactory grade.

REGISTRATION FOR AN INCOMPLETE

The undergraduate or graduate student who is registering to fulfill the requirements of an incomplete grade must register for one credit hour.

COURSE ADD, DROP AND WITHDRAWAL

Course Add/Drop Policies

"Adding" and "dropping" refer to the procedure by which students, once enrolled in specific courses for a semester or term, are allowed to add or drop one or more courses prior to the census date. The census date for a term varies with the length of the term. Please refer to the school calendar, available at: http://shp.utmb.edu/AcademicCalendar/default.asp.

The Request for Class Schedule Change and Withdrawal Grade Assignment is available for department completion at https://shp.utmb.edu/ASA/forms.asp. Forms must be submitted by the student's department, not by the student.

Students adding or dropping a course may be subject to additional tuition and fees or may be eligible for a refund. Additional fee assessments are due and payable when the change is executed unless the student is currently on an installment plan. In that case, the payments are adjusted accordingly. The effective date of the change is the date of receipt by Enrollment Services, or the date the change was processed online by the student. Please refer to the UTMB General Bulletin for details on refunds.

For a course drop, no notation of the original course registration is entered on the student's permanent academic record.

Course Withdrawal Policies

Upon approval of the course instructor, Department Chair, and the Associate Dean for Academic & Student affairs, a student may withdraw from a course no later than the Friday of the week during which 80% of the course work is completed. The Request for Class Schedule Change and Withdrawal Grade Assignment is available at http://shp.utmb.edu/asa/asa_forms.asp. The symbol "W" will be recorded to indicate a withdrawal. Student requests for withdrawal will not be accepted after the deadline for withdrawing from a course.

Failure to Officially Drop/Withdraw from a Course

A student who, without permission from the course instructor or clinical coordinator, stops attending a course or scheduled clinical experience without completing the established drop/withdrawal procedures stated in this bulletin will, at the end of the enrollment period, be assigned the letter grade earned in each course or clinical experience based upon the student's performance (or nonperformance) on the entire course requirements. Refer to the leave of absence policy.

Withdrawal Limit Provisions (TEC §51.907)

Students who enroll as entering freshmen or first time in college students in undergraduate courses offered through any public Texas institution of higher education beginning in the Fall 2007 semester or any subsequent semester are subject to the course withdrawal limit of six courses, including any course a student has withdrawn from at another public Texas institution. Please refer to the Texas Education Agency website at: http://www.statutes.legis.state.tx.us/Docs/ED/htm/ED.51.htm#51.907..

LEAVE OF ABSENCE

Students are expected to progress continuously through their programs of study to the completion of their degrees. Occasionally, personal situations such as medical emergencies, family emergencies, financial emergencies or other good cause (see Withdrawal Limit Provisions section above) make it necessary for students, with the advice and approval of program faculty and

appropriate administrators, to alter their degree plans and interrupt their enrollment. A student must request a leave of absence to preserve matriculation status. Academic difficulties do not justify a leave of absence.

The Associate Dean for Academic and Student Affairs may grant personal and administrative leaves of absence for varying periods for up to one year, with the provision that the student will arrange with all instructors to make up the work missed.

All medical leaves of absence receive final approval through the office of UTMB's Institutional ADA Office. Students may request the medical LOA directly from UTMB's Institutional ADA Officer at (409-747-4818) or adastdnt@utmb.edu. Students may also meet with their Department Chair, and can be directed to the ADA office. The ADA webpage is found at https://hr.utmb.edu/ada/.

A request for a leave of absence must be made in writing to the Chair of the student's department and approved by the Associate Dean for Academic and Student Affairs using the approved form, 'Request for Leave of Absence." The request must indicate dates of the leave and plans for returning. In order to reenroll following a leave of absence, the student must comply with all conditions of the leave of absence stipulated by the department and must obtain the written approval of the Associate Dean for Academic and Student Affairs on recommendation by the Chair using the form 'Reenrollment Form.' Request for Leave of Absence and Application for Reenrollment forms are available on the Student Information webpage at http://shp.utmb.edu/current/default.asp.

Student services and privileges provided to enrolled students, with the exception of student email, will cease during the period of the leave. The student must maintain current contact information in the Office of Enrollment Services during the leave of absence. Students are also required to complete any required compliance training during their leave. Failure to do so will result in a hold that cannot be removed until the student is current on all compliance training.

A student who requests a leave of absence should note the following:

- Graduation and completion date for a program may be delayed. It is the responsibility of the student to negotiate with the Department Chair to schedule the completion of degree requirements. A delay in completion of program requirements/graduation may result in the inability of a student to graduate and sit for licensure/certification examinations, thus delaying professional employment eligibility.
- Students may not complete incomplete or other outstanding coursework while on leave of absence.
- The Chair of the student's department and/or the Associate Dean of Academic and Student Affairs may establish specific academic conditions or restrictions upon a student's return from LOA and may also require demonstration of proficiency in knowledge and skills.
- The student requesting a medical leave of absence will present justification from a health care provider and an estimate of when the student may return to their studies (not to exceed one year). An assessment of whether the student is cleared to return is also required.
- Students requesting an LOA must be good academic and disciplinary standing.
- Students requesting an LOA in their first semester of enrollment will provide compelling evidence of their need to suspend studies.

Voluntary Program Withdrawal

It is recognized that circumstances may require a student to voluntarily withdraw from a program. In such cases the student surrenders the right of matriculation and must competitively reapply for admission.

Any student who does not remain continuously registered and who has not obtained an official leave of absence for the period of non-attendance may be deemed to have voluntarily withdrawn from a program and surrenders his or her right of matriculation. Students not registered by the 11th day of classes and who have not been granted registration extensions or leaves of absence will be

deemed to have voluntarily withdrawn. Reenrollment following voluntary withdrawal requires that the student reapply competitively through regular admission procedures.

CRIMINAL BACKGROUND CHECKS AND DRUG TESTS

Within 60 days prior to matriculation, each student admitted to any UTMB school is required to submit a criminal background check and drug test at his/her expense. Upon initial acceptance, SHP students receive instructions for contacting an approved provider online. Final acceptance is conditioned on a successful review of the criminal background check and drug test. Until the results are returned to university as clear, the student is conditionally accepted. Should the student have a misdemeanor or felony conviction at any point after the background check has been received by the university, the student must report any infraction to the Office of Academic & Student Affairs (shp.academicaffairs@utmb.edu) with 3 calendar days.

Current students may be assigned to clinical facilities that require criminal background screenings prior to starting the clinical experience. Some facilities may stipulate time limits on the currency of the criminal background check. At their expense students must comply with the clinical facility's policy.

For students who matriculated prior to Spring 2018, instructions for authorizing a background check are at http://www.shp.utmb.edu/background_checks.asp. For students who matriculated Spring 2018 or later, please see your CastleBranch account. For more information, please contact shp.academicaffairs@utmb.edu.

Students must report an arrest, misdemeanor or conviction that occurs while a student at UTMB; those events must be reported to the Office of Academic & Student Affairs within 3 calendar days of occurrence. Communication must be made in writing to shp.academicaffairs@utmb.edu. Enrollment may be negatively impacted by arrests or convictions.

CREDIT FOR PRIOR LEARNING

The faculty of the School of Health Professions is committed to making its educational opportunities relevant to the aspirations of a variety of individuals who differ in competence, interests, experience, motivation, and aptitude. The faculty endorses the concept that the educational system serves the needs of both the individual and society. While committed to producing graduates who are competent and compassionate practitioners in the health professions, the faculty of the school wishes to provide alternative routes for achieving this status and recognizes that learning occurs both within and outside the formal academic setting. For these reasons, policies granting credit for prerequisite and/or professional courses based on prior learning experiences have been adopted.

Prior Learning as a Substitute for Prerequisite Courses

Individuals who have attended professional or technical institutions, such as diploma health programs or other nonacademic hospital-based programs, may have attained training and/or experience comparable to the prerequisites for admission to a professional course of study. This training and/or experience may be substituted for prerequisites according to the following options, which must be completed prior to admission.

Option 1 - Didactic Instruction

The applicant submits to the Chair of the department to which he or she seeks admission acceptable documentation of the hours of instruction successfully completed for each prerequisite course for which he or she seeks credit to be granted. Acceptable documentation includes outlines, syllabuses, or other descriptions of the content successfully completed by the applicant.

As a guideline, 1 semester credit hour may be granted for each 15 hours of acceptable didactic (classroom) instruction. A maximum of 22 semester credit hours may be awarded as prerequisite elective credit, provided that, if credentialing is applicable, the applicant is credentialed, and if

institutional accreditation is applicable, the program was accredited throughout the time the applicant participated in the program.

For credit thus approved, an entry on the UTMB student permanent academic record will identify the institution where the applicant completed the experience and the number of semester hours granted.

Option 2 - Standard Examination

The Chair of the department to which an applicant seeks admission may accept, in lieu of prerequisites, the credits earned from the General and/or Subject Examinations of the College Level Examination Program (CLEP) or other standard examination. As a guideline, the applicant must have scored at or above the national 50th percentile in each course or subject area for which he or she seeks credit.

Option 3 - Work Experience

Upon receipt of a written request and acceptable documentation, the Chair of the department to which an applicant seeks admission may waive a prerequisite based on work experience. Approval of a course waiver does not affect the requirement of successful completion of a minimum of 120 semester credit hours to receive an undergraduate degree or a minimum of 30 semester credit hours to receive a graduate degree.

Prior Learning as a Substitute for Professional Courses

Individuals who attended professional or technical non-degree-granting institutions may have attained training comparable to all or part of one or more courses in the professional curricula of the school. The granting of semester credit hours for such training is determined by the student's Department Chair according to the following methods:

- The student submits an outline, syllabus, or other acceptable documentation of the comparable content. If the content is judged to be equivalent to all or part of a course in the student's professional course of study, approval to substitute the prior course(s) may be granted.
- The student submits acceptable documentation of the number of hours of didactic (classroom) instruction that were successfully completed. For each 15 hours of acceptable didactic instruction, 1 semester hour of credit may be granted.
- In the event documentation as described above is not available, a maximum of 22 semester credit hours may be awarded for health professions and/or nursing education granted by nonacademic institutions according to the following formula: 22 x months of instruction ÷ 24 months = semester credit hours.

Semester credit hours granted by these methods will be noted on the student's permanent academic record by the symbol CR following the identification of the specific course. Computation of a student's GPA will not include credit so authorized.

Credit by Challenge Examination

- •The student may petition his or her Department Chair for a challenge (equivalency or proficiency) examination. The student's Department Chair will determine whether the student had an opportunity to acquire the equivalent knowledge and/or skill and qualifies to be tested. The following guidelines govern the administration of challenge examinations:
- The student may submit his or her petition for a challenge exam at any time after receiving official notification of acceptance into a professional program in the School of Health Professions but before commencing the last 15 semester hours of the professional curriculum. Written requests must be submitted simultaneously to the course instructor/coordinator and the student's Department Chair at least two weeks before the course begins. If, however, the course is offered during the student's first enrollment period in the School of Health Professions, the request must be made no later than the first week of the

course. Challenge examinations granted during the student's first enrollment period must be completed within the first two weeks of class. Challenge examinations in later semesters or terms must be completed within the first week of class.

- Both the course instructor/coordinator and the student's Department Chair must approve the petition.
- The petitioner must be officially registered in and have paid all applicable tuition and fees for each course for which a challenge examination is sought.
- Challenge examinations are comprehensive and comparable to those examinations required of students completing the course in the School of Health Professions.
- A student may take a challenge examination of a course or portion of a course one time only.
- The student must score a minimum grade of 80; otherwise the student completes the course or portion of a course during the enrollment period under way at the time of the examination. Except in extenuating circumstances and with the approval of the student's Department Chair and the school's Gradings and Promotion Committee, a grade of "F" will be recorded if the student does not complete the course.
- Credit so earned is noted on the student's official permanent academic record as "credit by examination."
- Calculation of the student's GPA will include credit earned by challenge examination.
- The grade earned by challenge examination for a portion of a course is averaged into the total grade for the course.
- Curriculum standards and/or standards for accreditation, certification, or licensure may limit the amount of credit by proficiency examination of skills, as determined by the student's Department Chairperson.
- Two or more faculty members qualified to assess the competency of demonstrated skills will evaluate the student's performance.
- The student granted credit for demonstrated skills may be required by his or her Department Chairperson to pursue additional study.

TRANSFER CREDIT

Course credits may be transferred from another approved institution or from foreign institutions if the student's Department Chair determines that the course content is equivalent to content of the course offered in the School of Health Professions and approves the transfer.

The following School of Health Professions policy limits the acceptability of such credit:

- Credit earned more than five years prior to admission as a degree-seeking student at the UTMB School of Health Professions will not be counted toward fulfilling degree requirements without approval by the student's Department Chair. Such approval will be based upon the recommendation of the course instructor(s) for which credits are awarded or other criteria determined by the Chair to ensure that (a) the courses for which credits are awarded are of sufficient substance by current standards of the discipline, and (b) the student can demonstrate sufficient retention of the course content to apply it in the present.
- Credit earned by correspondence instruction or by enrollment at another college or university while the student is enrolled in the School of Health Professions will not be counted toward a degree unless advance written approval is obtained from the student's Department Chair. Biological or physical science prerequisites may not be taken by correspondence. No more than 15 credit hours earned by correspondence instruction will be counted toward satisfying the prerequisites of any curriculum offered by the School of Health Professions.
- Grades must be "C" or better for undergraduate level courses and "B" or better for graduate level courses.

STUDENT APPEALS

Course Grading and Unsatisfactory Academic Performance (UTMB IHOP 07.01.20)

Faculty members are responsible for evaluating students' course work. If a student feels a faculty member's grading or evaluation has been discriminatory or unfair, the following challenge process is available.

Informal Challenge Process

The student initiates the informal challenge process by contacting the instructor of record who is responsible for documenting the reason(s) why the particular grade was issued. The informal process involves open communication between the instructor and the student. Students are encouraged to resolve differences at the informal level so that confidentiality will be preserved. Only if the issue is not resolved, the student may proceed to the formal challenge procedure.

Course Grading and Evaluation Challenge Procedure

To initiate the challenge, the student schedules an appointment with the faculty member issuing the grade, stating the reason for the appointment. The student should be specific about the part of an exam, paper, assignment, or other requirement in question. The appointment should be scheduled within five class days following notification of the grade to the student by any reasonable means including electronic posting, written posting, email, or posting in the Office of the Registrar student information system. If it would be difficult or impossible for the student and faculty member to schedule the appointment within the designated time limit, the appointment should be scheduled as soon thereafter as possible, in no case exceeding ten class days from the posting. Should the issue fail to be resolved, the student may request a conference with the faculty member and the next level of authority for the course or program. This conference should be held within three class days of the initial conference at a time when the faculty member(s) may participate.

The program director or Department Chair shall render an opinion on the student challenge within two class days. Should the issue not be resolved, the student may proceed to the formal grievance procedure.

Formal Grievance Procedure

Informal challenge processes should be followed before progression to the formal grievance procedure. If the student proceeds to the formal grievance procedure, the student must provide documentation of the informal challenge process performed prior to initiating a formal appeal.

The school's formal appeals procedure applies equally to Course Grading and Evaluation Challenges and appeals of actions by the Gradings and Promotion Committee regarding student promotion, readmission, probation, suspension, or dismissal.

Course grade appeals will be limited to situations in which 1) an instructor refuses to (or cannot) assign a grade; 2) an instructor is not available to review possible computational errors; 3) the student believe the course grade assigned is inequitable or capricious, unreflective of course performance, or inconsistent with other grade assignments in the course; or 4) when an assigned course grade does not follow the SHP Academic Policies. The time limit to initiate a formal appeal of a course grade must occur within five working days (Monday- Friday, except official school holidays) of the posting of the grade.

The time limit to initiate a formal appeal of a Gradings and Promotion Committee decision (i.e., probation, dismissal) must occur within five working days (Monday- Friday, except official school holidays) of the student's receipt of notice of the action that is being appealed from the Gradings and Promotion Committee. The student will be contacted by an electronic email to their UTMB email account with return receipt requested, and the Office of Academic & Student Affairs (shp.academicaffairs@utmb.edu) copied.

- Failure by the student to carry forward an appeal at any level and within the specific time frames shall nullify the right to pursue the appeal. This includes students who do not

respond to requests of return receipts and those who do not maintain current contact information in the Office of the Registrar.

- To initiate the formal grievance procedure, the student submits a written petition to the Student Grievance and Appeals Committee (SGAC), clearly and concisely stating the factors related to the action under appeal. Correspondence should be sent to the Office of Academic & Student Affairs, via email at shp.academicaffairs@utmb.edu.
- The student's written petition to appeal must be submitted within five work days (Monday–Friday, except school holidays) of notice of the action which the student appeals.
- Upon receipt of the student's written petition, the Chair of the Student Grievance and Appeals Committee (SGAC) identifies members to serve on the Appeals Panel.
- The members of the Ad Hoc Appeals Panel include: a Chair who serves without vote; two voting faculty volunteers, and one volunteer voting student. No voting members shall be from the student's department, nor shall these members have prior knowledge of the issue being appealed.
- The Committee Chair, in writing or by electronic means, will notify the student and unit representative of the initiation of the formal appeal and the names of the voting members serving on the Appeals Panel.
- If either the student or department representative objects to the members of the Appeals Panel based on conflict of interest, they may request a replacement of one or more of the members. To request this change, justification must be provided as to why said member(s) would be considered a conflict of interest.
- The Student Grievance and Appeals Committee (SGAC) Chair will make reasonable efforts to schedule the appeal hearing within five work days of receipt of the student's written petition. If this is not possible, the hearing should be held at the earliest possible date. Without exception, all appeals will be held on campus in Galveston.
- The student appealing and the department shall both submit the pertinent written materials to be presented to the Appeals Panel no less than 48 hours prior to the hearing. The student's written petition to the Student Grievance and Appeals Committee (SGAC), clearly and concisely stating the request for the hearing, will be part of the student's packet. The materials should be submitted in PDF format to the Office of Academic & Student Affairs, via email at shp.academicaffairs@utmb.edu.
- During the appeals hearing, the committee chair ensures that the discussion and questions remain relevant to the issue. The Appeals Panel members may question both the student appealing and the department representative.
- Both parties have the right to an advisor during the hearing. The advisor may not address the committee, make any statements, or question witnesses. The advisor may, however, confer privately with his or her advisee during the hearing.
- The number of people present during the hearing is limited to panel members, appealing student, student and/or department advisor, department representative, and a school administrative representative in some cases. A recording device will record the hearing.
- The student may request that the department representative leave the room while presenting his/her case. If the student so chooses, he/she will leave the room during the department representative's presentation.
- Either party may have witnesses. These witnesses may only address and answer questions from the Appeals Panel . Witnesses shall not confer or communicate directly with either party. Witness names must be disclosed prior to 48 hours before the hearing begins.
- Upon completion of each party's presentations, the Appeals Panel may question the two parties together to clarify or resolve any remaining questions or issues.
- The student makes his/her closing statement. Both parties are then dismissed and the

three voting panel members, with the assistance of the Appeals Panel Chair, begin their deliberations. A vote of two-thirds of the panel is required to reach a ruling.

- The written conclusion of the Appeals Panel shall be communicated by electronic email to their UTMB email account, with return receipt requested, and the Office of Academic & Student Affairs (shp.academicaffairs@utmb.edu) copied.
- Either party may appeal the decision of the Hearing Panel in writing and by close of business Central Time (5:00 pm) the following working day by communication of the decision by emailing the Dean of the UTMB School of Health Professions, clearly and concisely stating why the decision of the Appeals Panel should be set aside. The appeal must include a copy of the written appeal submitted to the SGAC and the written conclusion of the Appeals Panel.
- The Dean or the Dean's designee, has the right to question the parties and member(s) of the Appeals Panel and to review the materials submitted, before reaching a final decision on the matter. The Dean or their designee shall render his or her written decision within five working days (Monday-Friday, excluding holidays) of receiving the appeal. The decision of the Dean or designee shall be final.
- The chair of the hearing panel shall collect all copies of materials distributed to the parties and the panel and deliver them to the Office of Academic and Student Affairs (ASA). That office will retain all originals for the confidential file subject to institutional retention and destroy all copies.
- Time limits established above serve to facilitate prompt execution of the grievance process and may include the time period between semesters. If the appeal cannot be concluded before the start of the next enrollment period, the student will be allowed to enroll in subsequent didactic courses and at the discretion of the department faculty, clinical courses. The student remains subject to the rules and regulations regarding course withdrawal.
- A student dismissed from any SHP program due to academic failure but who is reinstated through the appeals process must successfully complete all requirements stipulated by the faculty and must earn a grade of C or better in undergraduate programs and B or better in graduate programs. Failure to achieve the required level of performance will result in dismissal from the program without the right to appeal the second dismissal.

Enrollment in Classes While Awaiting Appeal

Students who appeal an unfavorable decision of the Gradings and Promotion Committee are allowed to enroll in didactic classes in the following semester while their appeal is being resolved. Should the decision of the SGAC be to uphold a dismissal by the GPC committee, the student will be dropped from all classes immediately and withdrawn from the university. A student who officially drops or withdraws from the University of Texas Medical Branch at Galveston may receive a refund of tuition and fees as outlined in the General Information Catalog at https://www.utmb.edu/ enrollmentservices/catalog.asp. A student who completes 80% of a course must receive a grade.

STUDENTS WITH DISABILITIES

UTMB is committed to its compliance with the ADA (1990) and as Amended (2008) and seeks to guarantee a learning environment that provides reasonable accommodation to students with disabilities.

Students with a documented disability or who would like to obtain information regarding services for students with disabilities at UTMB may contact UTMB's Institutional ADA Officer at (409) 747-4818 or adastdnt@utmb.edu.

Accepted Students

A student who has been accepted into a UTMB program and who intends to matriculate will:

- Read the Essential Functions of the program in question. These will be communicated to the student upon acceptance to the program.
- Sign and date the document that verifies his or her capacity to perform the essential function, either with or without accommodations. The signed and dated document will become part of the student's official record. If a student indicates a need for accommodation, information will be forwarded to that student about the institutional policy on students with disabilities and about the need to contact UTMB's Institutional ADA Officer if this has not been done. Students who are diagnosed with a disability or become disabled after matriculation

Students with a disability or who become disabled will follow the relevant procedures enumerated above and then:

- Review and adhere to the institutional policy on students with disabilities.
- The student will contact UTMB's Institutional ADA Officer to begin the interactive process to discuss what, if any, accommodations are being requested and what, if any, reasonable accommodations can be provided.
- ADA Officer will review and provide approved ADA accommodation letter to the student, as well as to the academic program and the Office of Academic & Student Affairs.

STUDENT VETERANS

If you are a veteran or dependent, please contact the Office of Enrollment Services for more information on Veteran Affairs at http://www.utmb.edu/enrollmentservices/financialaid_veterans.asp.

Academic Honors and Awards

DEAN'S LIST

At the end of each fall, spring and summer session, an honors list is published to officially commend that segment of the full-time student body who attained academic excellence by achieving a GPA of 3.5 or above on work attempted in that academic enrollment period. No incomplete or unsatisfactory grades are permitted regardless of GPA. Baccalaureate students must complete a minimum of 12 semester credit hours, and graduate students must complete a minimum of 9 semester credit hours, in the term in which they are recognized.

UNDERGRADUATE DEGREE HONORS

Each year the School of Health Professions recognizes baccalaureate students in the top 15 percent of each department's graduating class. The distinctions of Cum Laude, Magna Cum Laude and Summa Cum Laude will be announced as each student is introduced, and the designation will appear on each graduate's diploma. Degree honors are awarded with baccalaureate degrees only and are computed only on the professional curriculum completed in the School of Health Professions. The suggested distribution is:

Summa Cum Laude	Top 5%
Magna Cum Laude	Next 5%
Cum Laude	Next 5%

To be eligible for honors in any discipline, a student must have a minimum cumulative GPA of 3.5 or better. In addition, a student must have appeared on the Dean's List for at least one enrollment period. The GPA serves as the primary factor in determining eligibility for these honors.

A student who completes his or her degree requirements out of sequence, but who otherwise meets the minimum established academic criteria of honors graduates within his/her department, will be eligible for consideration for the appropriate academic honors designation.

ACADEMIC AWARDS

The John G. Bruhn Award for Professionalism recognizes a senior student who consistently displays, in personal and professional conduct, traits that bring credit to the student, the school, and the student's chosen health profession. Nominees must have a career potential for such behavior in the future. Students are nominated for this award by faculty, including clinical instructors and other persons, whose lives may have been touched by the nominee.

The Student Honor Award is presented to the senior student who has made significant contributions to the school, University, and community during his or her enrollment. Nominations for this award are made by the faculty of the school. Criteria for selection for this award are based upon the student's demonstration of an evolving professional identity, and a dedication to uphold and advance the values, ethics, knowledge, and mission of their profession within the spheres of school, university, and community. Contained within this dedication may be found the following:

- Propriety: high standards of personal conduct in the capacity of the profession
- Integrity: honesty, reliability, dignity, and sensitivity afforded to patients and peers
- Competence: aspirations to attain and maintain superior proficiency in professional practice
- Scholarship: evidence of scholarly ability and ongoing scholarly inquiry
- Service: dedication to furthering the Interdisciplinary Studies of the profession in the broader scope of community, state, and nation

Departmental Awards

Department of Clinical Laboratory Sciences

Outstanding Clinical Laboratory Sciences Research Poster Presentation
Outstanding Clinical Laboratory Sciences Research Award Outstanding Clinical Laboratory Sciences Student Award
Outstanding Service in Clinical Laboratory Sciences Outstanding Professionalism Award
William J. & Mary K. McGanity Award

Department of Nutrition & Metabolism

Excellence in Practice
Excellence in Research
Outstanding Student

Department of Occupational Therapy

Award for Excellence in Practice
Outstanding Graduate Award
Professional Excellence Award
Service Award

Department of Physical Therapy

Gertrude Freeman Development Award
Outstanding Clinical Excellence Award
Outstanding Physical Therapy Clinical Case Award Specialty Category
Outstanding Physical Therapy Clinical Case Award Orthopedic Category
Outstanding Physical Therapy Clinical Case Award Neurologic Category
Outstanding Physical Therapy Student Award
Physical Therapy Student Honor Award

Department of Respiratory Care

Outstanding Respiratory Care Academic Student Award
Outstanding Respiratory Care Clinical Student Award
Outstanding Respiratory Care Leadership Award

DEPARTMENT SPECIFIC SCHOLARSHIPS AND AWARDS

Clinical Laboratory Sciences

Beatrice Brotzman Endowed Presidential Scholarship
Competitive Academic Scholarships in CLS
M.G. and Lillie Johnson Endowment Fund in Clinical Sciences
William J. and Mary K. McGanity Award
Mohammad R. Avandsalehi Endowed Clinical Laboratory Sciences Scholarship
Ruth Morris Endowed Scholarship
University Federal Credit Union Endowed Scholarship honoring Edith Camellia St. John
Mary Jane Webb Memorial Scholarship
J. Vincent Endowed Scholarship

Occupational Therapy

Competitive Academic Scholarships in OT
Texas Society, Daughters of the American Revolution Endowed Scholarship

(continued, next page)

Frances LuAnn Murphy Memorial Scholarship Fund in Occupational Therapy
Robert K. Bing Occupational Therapy Scholars Award
Spirit of Generosity Award in Occupational Therapy
Elizabeth Collins Thomas Scholarship in Occupational Therapy
Warm Springs Cornerstone Scholarship for Occupational Therapy

Physical Therapy

Cecelia Garcia Akers Endowed Scholarship in Physical Therapy Honoring Dr. and Mrs. Hector P. Garcia
Barbara Barton Scholarship
Competitive Academic Scholarships in PT
Cultural Diversity Scholarship Award in Physical Therapy IHO Johnette Meadows
Ruby and Grace Decker Endowed Scholarship in Physical Therapy
Kay Hill Delgado Scholarship in Physical Therapy
Larry Feeler, PT, Worksteps, Inc. Physical Therapy Scholarship In Memory of Walt Jones
Rachel Jost Memorial Scholarship
Physical Therapy Students of Distinction
Schapper Endowment for the Study of Spine Rehabilitation
Warm Springs Cornerstone Scholarship in Physical Therapy
Susan and Gaddis Wittjen Scholarship in Physical Therapy
Linda Lange Williams Memorial Scholarship (TPTA)

Respiratory Care

Competitive Academic Scholarships in RC
Judy Jones Reinhardt Endowed Scholarship Fund

SCHOLARSHIPS AND AWARDS FOR ALL PROFESSIONS

Alpha Eta Society Scholarship
John G. Bruhn Award for Professionalism
Charles H and Pamela A. Christiansen Scholarship
Edith and Emanuel Cohen/Evelyn A Gerstein Memorial Scholarship
SHP Dean's Competitive Academic Scholarship
The William T. "Bill" Donoho Endowment
Hector P. Garcia, M.D., Cultural Competence Award (UTMB-wide)
The Edgar and Grace Gnitzinger Endowed Scholarship
The Thomas N. and Gleaves T. James Scholarship (UTMB-wide, rotates between all four schools)
The Harris and Eliza Kempner Endowed Scholarship Fund
Dr. Eugene Kindley Memorial Scholarship Endowment
Dr. Diane Lisa Sunshine Leonard Scholarship
William C. Moore Memorial Scholarship
A.J. Rodriguez, Jr. Memorial Scholarship
Minnie & Ward Savage Presidential Scholarships in Allied Health
Schapper Endowment for Academic Excellence
Peyton & Lydia Schapper Endowed Scholarship in Health Promotion and Gerontology School of Health Professions Alumni Association (formerly Allied Health Sciences)
SHP Deans Academic and Competitive Scholarship Award
SHP Silver Anniversary Scholarship Endowment
Student Leadership Award

The Arthur V. Simmang Endowed Scholarship

Ralph and Mary John Spence Scholarship (UTMB-wide, rotates between all four schools)

John D. and Mary Ann Stobo Award in Oslarian Medicine (UTMB-wide, rotates between all four schools)

UTMB Retirees Association Scholarship (UTMB-wide, rotates between all four schools)

University Federal Credit Union Scholarship for Non-Traditional Students

Brigadier General and Mrs. Donald B. Wagner Endowed Scholarship

The Sjoerd Steunbrink Scholarship Endowment (UTMB-wide, rotates between all four schools)

To find more information regarding endowments, memorials, and other gifts to the School of Health Professions, contact (409) 772–3001.

Selection Committee

The selection committee for competitive scholarships consists of representatives from all departments in the School of Health Professions. The selection committee is responsible for identifying eligibility, nominating students and conferring all school wide scholarships and awards.

Scholarship Program

Available scholarships can be found at:

http://www.utmb.edu/enrollmentservices/scholarships.asp

Once a student has been accepted for admission, an application can be accessed and completed via mySTAR.

External Scholarships

Students often qualify for awards from external organizations and are encouraged to pursue all opportunities. Externally funded grants, scholarships and loan programs are offered and selected by agencies or committees outside UTMB Health. Therefore, UTMB Health is not responsible for establishing criteria or participating in the selection or notification of recipients.

Referrals to Websites outside The University of Texas Medical Branch do not constitute an endorsement by UTMB Health or the Office of Student Financial Aid of the sites' sponsors or of the products presented on the sites.

Scholarship Scams

Be aware of the tactics companies use to convince students to utilize their services. Federal Student Aid Information on Financial Aid Scams: http://studentaid.ed.gov/types/scams.

Scholarship Search Sites

CollegeBoard Scholarship Search: https://bigfuture.collegeboard.org/scholarship-search

CollegeNet Scholarship Database: http://www.collegenet.com/mach25/app

FastWEB: http://www.fastweb.com

FinAid.org: http://www.finaid.org

FreSch! The Free Scholarship Search Service:
http://www.freschinfo.com/ GoCollege: http://www.gocollege.com/

Scholarship America: http://scholarshipamerica.org/

Scholarships.com https://www.scholarships.com/

Wired Scholar Free Scholarship Search:
https://www.salliemae.com/plan-for-college/

Scholarships can also be found via search engines, including Google, Lycos, Yahoo!, and AOL Search.

Student Organizations and Services

SCHOOL OF HEALTH PROFESSIONS STUDENT ORGANIZATIONS

Alpha Eta Honor Society (Interdisciplinary health professions students, graduates and professionals)

Lambda Tau National Honor Society (Clinical Laboratory Sciences)

Physical Therapy Pro Bono National Honor Society

Physical Therapy Student Organization

Pi Theta Epsilon National Honor Society (Occupational Therapy) Respiratory Therapy Student Association (RTSA)

Student Ambassador Society (SAS)

Student Occupational Therapy Association (SOTA)

Student Physical Therapy Association (SPTA)

Student Organization for Clinical Laboratory Sciences (SOCLS)

UNIVERSITY STUDENT SERVICES

University Student Services provides university-wide services and programs that support all UTMB students' academic and professional goals. Those services include: Student Life, Student Wellness, and Enrollment Services.

Office of Enrollment Services: Provides admission, registration, financial aid, and registrar services in a student-centric environment.

Student Health: Provides holistic health and wellness programs and services, personal counseling and crisis intervention, and alcohol and drug awareness and prevention programs that foster student academic and personal success.

Student Life: Implements, in collaboration with students and the UTMB community, programs and activities that support students' involvement on campus and enhance co-curricular needs, such as civic engagement, humanitarianism, professionalism, leadership, and inter/intrapersonal skills.

Please refer to the UTMB General Information Catalog at:
http://www.utmb.edu/enrollmentservices/catalog.asp for information regarding:

Admissions

General Information

Baccalaureate Admissions Requirements

Master's Admissions Requirements

Doctoral Admissions Requirements

Health Insurance and immunization requirements

Orientation and Registration

SHP STUDENT SERVICES

Office of Academic and Student Affairs

The Office of Academic and Student Affairs (ASA) provides students enrolled in the school with support in their development as they prepare for roles that will require new personal and professional skills. The office helps students work toward the accomplishment of their personal, academic, and professional goals. To meet this objective, the office works with the UTMB Offices of Student Services, Student Health, and Counseling & Psychological Services to accomplish the following:

- In collaboration with departments, provide career planning and placement services;
- Serve as advisor to the SHP student organizations;
- Plan, coordinate, and conduct new-student orientation;
- Plan and coordinate annual commencement exercises;
- Coordinate learning assistance activities such as peer tutoring, study and test taking skills.

Counseling

Counseling services available through any campus resources are confidential.

Alphabetical Listing of Faculty

KEY: Faculty name, administrative appointment, endowed chair/professorship, principal academic appointments, year of appointment to faculty, terminal degrees, institutions, year earned.

ADCOCK, Bruce, Assistant Professor of Instruction, Department of Respiratory Care, 2013; Master of Sciences in Health Professions Program, 2016; MEd, RRT- NPS, Texas Tech University, 2009.

AL SNIH, Soham, Program Director and Associate Professor, Master of Sciences in Health Professions Program, 2016; Department of Nutrition & Metabolism. 2016; Division of Rehabilitation Sciences, 2008; MD Universidad Central de Venezuela, "Luis Razetti" School of Medicine, University Hospital. Caracas, Venezuela, 1986.

BAKER, Christine P., Associate Dean for Academic & Student Affairs, 2018; EdD, Texas Tech University, 1989.

BOURGEOIS, Jeremy, Clinical Assistant Professor, Department of Physical Therapy, 2015; University of Texas Medical Branch at Galveston, 2014.

BRYANT, Barbara, Adjunct Professor, Clinical Laboratory Sciences, 2013, MD, University of Texas Medical Branch at Galveston, 2000.

CHAPMAN, Karen, Clinical Instructor, Department of Physical Therapy, 2001; DPT, Simmons College, 2007.

COLLINS, Diane, Assistant Professor, Department of Occupational Therapy, 2012; PhD, University of Pittsburgh, 2004.

CORTI, Miriam, Assistant Professor of Instruction, Department of Clinical Laboratory Sciences, 2015; PhD New York University, 1993.

COWAN, April, Associate Professor, Department of Occupational Therapy, 2012; OTD, Rocky Mountain University, 2012.

DALEY, Mary D., Instructor, Master of Sciences in Health Professions Program, 2012; MD, Dalhousie University, Halifax, Nova Scotia, Canada, 1983.

DAVIDSON, Donald A., Associate Professor Emeritus, Department of Occupational Therapy, 1994; MA, University of Southern California, 1968.

DEER, Rachel, Assistant Professor, Division of Rehabilitation Sciences, 2016; University of Texas Medical Branch at Galveston, 2013.

DONG, Jianli, Adjunct Associate Professor, Department of Clinical Laboratory Sciences, 2013; MD, The First Military Medical University, Guangzhou, China, 1985.

DOWNER, Brian, Assistant Professor, Division of Rehabilitation Sciences, 2016; Ph.D., University of Kentucky, 2014.

DUARTE, Alex, Adjunct Professor, Department of Respiratory Care, 2015; MD, University of Illinois, 1989.

ELTON, Catherine, Clinical Instructor, Department of Physical Therapy, 2002; MPT, University of Texas Medical Branch at Galveston, 1997.

ENDERLE, Janet, Assistant Professor of Instruction, Department of Clinical Laboratory Sciences, 2013; PhD, University of Texas Medical Branch at Galveston, 2013.

ESANI, Muneeza, Assistant Professor of Instruction, Department of Clinical Laboratory Sciences, 2009; PhD, MT(ASCP), University of Texas Medical Branch at Galveston, 2017.

FARRONI, Laura W., Assistant Professor of Instruction and Director of Clinical Education, Department of Physical Therapy, 2013; DPT, University of Texas Medical Branch at Galveston, 2012.

FINGERHUT, Patricia E., Associate Professor & Chair, Department of Occupational Therapy, 2004; Master of Sciences in Health Professions Program, 2016; PhD, Texas Woman's University, 2005.

FISHER, Steven R., Associate Professor, Department of Physical Therapy, 2011; Master of Sciences in Health Professions Program, 2016; PhD, University of Texas Medical Branch at Galveston, 2008.

FLANAGAN, Joanne E., Assistant Professor, Department of Occupational Therapy, 2016; ScD, Towson University, 2014.

FREEMAN, Gertrude, Professor Emeritus, Department of Physical Therapy, 1995; MA, University of Iowa, 1969.

FREEMAN, Vicki, Interim Dean, School of Health Professions, 2017; Professor, Department of Clinical Laboratory Sciences, 1996; PhD, University of Nebraska, 1995.

FRY, Christopher, Assistant Professor, Department of Nutrition & Metabolism, 2015; PhD, University of Texas Medical Branch at Galveston, 2011.

FURTADO, Michael, Associate Professor of Instruction, Department of Physical Therapy, 2010; DPT, Boston University, 2008.

GALLOWAY, Rebecca, Associate Professor of Instruction and Director of Clinical Education, Department of Physical Therapy, 2008; PhD, University of Texas Medical Branch at Galveston, 2013.

GILLEY, Christa B., Adjunct Assistant Professor, Department of Physical Therapy, 2018; DPT, University of Pittsburgh, 2018.

GONZALEZ, Adrian, Clinical Instructor, Department of Respiratory Care, 2014; BSRC, Texas Southern University, 2014.

GUTIERREZ, Jean, Associate Professor, Department of Nutrition & Metabolism, 2015; PhD, Baylor University, 2009.

HARGETT, Kenneth D., Clinical Assistant Professor, Department of Respiratory Care, 1994; MHA, RRT, Independence University, 2010.

HERRERA-JARAMILLO, Marcela, Clinical Instructor, Department of Respiratory Care, 2016; BS, Physical Therapy Bogata, Columbia, 2008; AAS RC, Houston Community College, 2014.

HILTON, Claudia L., Associate Professor, Department of Occupational Therapy, 2013; PhD, Nova Southeastern University, 2006.

HONG, Ickpyo, Assistant Professor, Department of Occupational Therapy, 2017; PhD, Medical University of South Carolina, 2016.

HUGHES, Lynne, Associate Professor, Department of Physical Therapy, 2014; PhD, Rocky Mountain University of Health Professions, 2011.

JIWANI, Sonia, Clinical Instructor, Department of Respiratory Care, 2018; BSRC, University of Texas Medical Branch at Galveston, 2014.

KARMARKAR, Amol M., Associate Professor, Division of Rehabilitation Sciences, 2012; Ph.D., University of Pittsburgh, 2009.

KHAN, Muzna, Assistant Professor of Instruction, Department of Respiratory Care, 2015; Master of Sciences in Health Professions Program, 2016; MS, RRT, Texas Tech University, 2013.

KO, Mansoo, Associate Professor, Department of Physical Therapy, 2016; PhD, University of Florida at Gainsville, 2006.

KOUTROUVELIS, Aristides, Adjunct Professor, Department of Respiratory Care, 2005; Department of Clinical Laboratory Sciences, 2018; MD, St. Georges University School of Medicine, 1993.

KULKARNI, Kshitija, Assistant Professor, Department of Occupational Therapy, 2017; PhD, University of Texas Medical Branch at Galveston, 2016.

KURTZ, Rhonda, Clinical Instructor, Department of Physical Therapy, 2017; DPT, University of Texas Medical Branch at Galveston, 2013.

LAPOSATA, Michael, Adjunct Professor, Department of Clinical Laboratory Sciences, 2018; MD, John Hopkins University School of Medicine, 1981.

LAPREA, Adrianna, Assistant Professor of Instruction, Department of Physical Therapy, 2013; DPT, Nova Southeastern University, 2007.

LI, Chih-Ying (Cynthia), Assistant Professor, Department of Occupational Therapy, 2018; PhD, Medical University of South Carolina, 2015.

LONG, Kimbri R., Adjunct Assistant Professor, Department of Physical Therapy, 2018; DPT, University of Texas Medical Branch at Galveston, 2012.

LYONS, Elizabeth, Associate Professor, Department of Nutrition & Metabolism, 2015; PhD, The University of North Caroline at Chapel Hill, 2010.

MARION, Rodger D., Professor Emeritus, Division of Humanities and Basic Sciences, 2007; PhD, University of Kentucky, 1978.

MASEL, Brent E., Clinical Professor, Department of Occupational Therapy, 1999; Department of Physical Therapy, 1999; MD, Strinch Loyola Medical School, 1974.

McGAUGH, Janna M., Associate Professor, Department of Physical Therapy, 2005; ScD, Texas Tech University, 2006.

MEEK, Sarah D., Adjunct Assistant Professor, Department of Physical Therapy, 2018; DPT, Northern Arizona University, 2014.

MESSENGER, Christopher M., Assistant Professor, Department of Nutrition & Metabolism, 2016; MS, University of Texas Medical Branch at Galveston, 2009.

MLCAK, Ronald P., Clinical Associate Professor, Department of Respiratory Care, 1994; Ph.D., RRT, University of Berkley, 2001.

MOSSBERG, Kurt A., Professor Emeritus, Department of Physical Therapy, 1992; PhD, University of Texas Health Science Center at Houston, 1987.

NA, Annalisa, Adjunct Assistant Professor, Department of Physical Therapy, 2017; PhD, University of Delaware, 2016.

NASTARS, Daneen, Assistant Professor of Instruction, Department of Respiratory Care, 2009; Master of Sciences in Health Professions Program, 2016; MS, RRT, Texas Tech University, 2013.

NILSESTUEN, Jon O., Professor Emeritus, Department of Respiratory Care; 1993; PhD, RRT, Medical College of Wisconsin, 1980.

OPPERMANN, Laura, Assistant Professor of Instruction, Department of Physical Therapy, 2017; DPT, Texas Woman's University, 2016.

OTTENBACHER, Kenneth J., Professor & Director, Division of Rehabilitation Sciences, 2001; Department of Occupational Therapy, 2001; PhD, University of Missouri, 1982.

PADDON-JONES, Doug, Professor, Department of Nutrition & Metabolism, 2011; PhD, The University of Queensland, Australia, 1999.

PAPPADIS, Monique, Assistant Professor, Division of Rehabilitation Sciences, 2015; PhD, University of Houston, 2014.

PATEL, Sachin, Clinical Instructor, Department of Respiratory Care, 2015; BSRC, University of Texas Medical Branch at Galveston, 2012.

PELOQUIN, Suzanne M., Professor Emeritus, Department of Occupational Therapy, 1987; PhD, University of Texas Medical Branch at Galveston, 1991.

PENG, Bi-Hung, Assistant Professor, Department of Neuroscience & Cell Biology, 2015; PhD University of Texas Medical Branch at Galveston, 2003.

PROUGH, Donald, Clinical Professor, Department of Respiratory Care, 1997; Professor and Chair, Department of Anesthesiology, 1992; MD, Milton S. Hershey Medical Center, 1973.

PRYOR, Loree, Assistant Professor of Instruction, Department of Occupational Therapy, 2017; MOT, University of Texas Medical Branch at Galveston, 2009.

RAMIREZ, Jessica, Clinical Instructor, Department of Respiratory Care, 2018; BSRC, University of Texas Medical Branch at Galveston, 2013.

RASSMUSSEN, Blake B., Chair and Professor, Department of Nutrition & Metabolism, 2011; PhD, Brigham Young University, 1997.

RATCLIFF, Karen, Assistant Professor of Instruction, Department of Occupational Therapy, 2015; MS, University of Central Arkansas, 2001.

RAY, Susan, Clinical Instructor, Department of Clinical Laboratory Sciences, 2004; MS, University of Texas of the Permian Basin, 1995.

REICH, Miles, Associate Professor Emeritus, Department of Physical Therapy, 1994; PT, University of Cincinnati, 1974.

R**EISTETTER, Timothy A.**, Professor, Department of Occupational Therapy, 2008; PhD, Texas Woman's University, 2004.

ROGERS, Helen, Associate Professor, Department of Physical Therapy, 2016; PhD, University of Texas Medical Branch at Galveston, 2006.

ROJAS, Jose, Chair and Associate Professor, Department of Respiratory Care, 2007; Master of Sciences in Health Professions Program, 2016; PhD, RRT, Texas Tech University Health Science Center, 2000.

SALAZAR, Jose H., Interim Chair & Associate Professor of Instruction, Department of Clinical Laboratory Sciences, 2009; PhD, Texas Tech University, 2015.

SCARBROUGH, Amanda, Instructor, Master of Sciences in Health Professions Program, 2012; PhD, University of Texas Medical Branch at Galveston, 2008.

SIERPINA, Victor, Adjunct Professor, Department of Physical Therapy, 2007; Department of Nutrition & Metabolism, 2011; MD, University of Illinois Abraham Lincoln School of Medicine, 1979.

SLAYTEN, Jayanna, Adjunct Assistant Professor, Department of Clinical Laboratory Sciences, 2017; BS, Georgetown College, 1992.

SODER, Julie K., Assistant Professor of Instruction, Department of Clinical Laboratory Sciences, 2016; MS, University of Texas Medical Branch at Galveston, 2015.

STEVENSON, Marla, Assistant Professor of Instruction, Department of Clinical Laboratory Sciences, 2010; BS, Union College, 1967.

ST. JOHN, E. Camellia, Associate Professor Emeritus, Department of Clinical Laboratory Sciences, 1973; MEd, Texas A&M University at Prairie View, 1974.

STONE, Gretchen, Associate Professor Emeritus, Department of Occupational Therapy, 2005; PhD, University of Texas at Austin, 1991.

THIERRY Jr., Leonce H., Assistant Professor of Instruction, Department of Clinical Laboratory Sciences, 2001; Master of Sciences in Health Professions Program, 2016; MS, University of Texas Medical Branch at Galveston, 2001.

UTSEY, Carolyn J., Chair & Professor, Department of Physical Therapy, 1990; Master of Sciences in Health Professions, 2016; PhD, University of Houston, 2006.

VINCENT, Janet, Clinical Instructor, Department of Clinical Laboratory Sciences, 1988; MS, University of Houston-Clear Lake, 1986.

WALKER, LeeAnn, Assistant Professor of Instruction, Department of Clinical Laboratory Sciences, 2014; MEd, University of Houston, 1985.

WARD, Francis P., Interim Assistant Dean of Students Affairs and Associate Professor, Department of Respiratory Care, 2016; Master of Sciences in Health Professions Program, 2016; EdD, The George Washington University, Washington, District of Columbia, 1993.

WELSH, Rodney, Assistant Professor, Department of Physical Therapy, 2018; PhD, University of Texas Medical Branch at Galveston, 2016.

WILD, Dana, Associate Professor, Department of Physical Therapy, 2001; PhD, University of Texas Medical Branch at Galveston, 2009.

WILLIAMS-BOUYER, Natalie, Adjunct Associate Professor, Department of Clinical Laboratory Sciences, 2013; PhD, Meharry Medical College, 1997.

WITTJEN, Susan McPhail, Adjunct Assistant Professor, Department of Physical Therapy, 1992; PhD, Rice University, 1999.

YANES, Melissa J., Assistant Professor of Instruction, Department of Respiratory Care, 2016: MS, Texas A&M University, 2014.

ZHANG, Jianli, Associate Professor, Department of Laboratory Sciences, 2010; MD, University of Shihezi, Shihezi Medical College, 1982.

Helpful Phone Numbers and Addresses

Alumni Field House..... (409) 772–1304
Alumni Relations..... (409) 772–2772
Bookstore..... (409) 772–1939
Department of Pastoral Care ..... (409) 772–3909
Dormitories and Apartments..... (409) 772–1898
Enrollment Services ..... (409) 772–1215
Equal Opportunity & Diversity... (409) 747–8823
Moody Medical Library ..... (409) 772–1971
Ombudsman ..... (409) 747-9055
Parking..... (409) 772-1581
President's Office..... (409) 772-1902
Student Wellness..... (409) 772-1215
Student Life ..... (409) 772-1215
UTMB Police Main number ..... (409) 772–1503
On–campus emergency.....Extension 21111

For additional information, contact the individual school:

School of Nursing
The University of Texas Medical Branch
301 University Blvd.
Galveston, TX 77555-1029
(409) 772-1181

School of Medicine
The University of Texas Medical Branch
301 University Blvd.
Galveston, TX 77555-0133
(409) 772-6958

School of Health Professions
The University of Texas Medical Branch
301 University Blvd.
Galveston, TX 77555-1028
(409) 772-3001

Graduate School of Biomedical Sciences
The University of Texas Medical Branch
301 University Blvd.
Galveston, TX 77555-1050
(409) 772-2665

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The University of Texas System Executive Officers

James B. Milliken
Chancellor *(as of Sept. 17, 2018)*

Raymond S. Greenberg, MD, PhD
Executive Vice Chancellor for Health Affairs

Scott C. Kelley, EdD
Executive Vice Chancellor for Business Affairs

Steven Leslie, PhD
Executive Vice Chancellor for Academic Affairs

Stephanie A. Bond Huie, PhD
Vice Chancellor for Strategic Initiatives

David L. Lakey, MD
Vice Chancellor for Health Affairs and Chief Medical Officer

Barry McBee, JD
Acting Vice Chancellor and Chief Governmental Relations Officer

Randa S. Safady, PhD
Vice Chancellor for External Relations

Daniel H. Sharphorn, JD
Vice Chancellor and General Counsel

William H. Shute, JD
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As of Sept. 17, 2018