

School of Health Professions

The University of Texas Medical Branch

BULLETIN
2012-2014



Provisions of this Catalog

The provisions of this bulletin are pending final approval by the University of Texas System Board of Regents.

The provisions of this catalog 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).

The University 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.

The catalog of The University of Texas Medical Branch at Galveston consists of five separately published components:

- UTMB General Information Catalog
- School of Nursing Bulletin
- School of Medicine Bulletin
- School of Health Professions Bulletin
- Graduate School of Biomedical Sciences Bulletin

The UTMB Catalog provides general information, including degrees and programs offered, admission, orientation and registration, tuition and fees, academic policies, student life, student support services, and the institutes.

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

The catalog is effective with the 2012–2014 academic year, and each of the component bulletins is effective until a subsequent bulletin is published. Copies of the most current issue of the catalog or any of the bulletins are available on line at <http://www.utmb.edu/enrollmentservices/>. Approved corrections, edits, deletions and additions to the catalog and bulletins are also available at this site.

Policy on Equal Opportunity/Affirmative Action

The University of Texas Medical Branch at Galveston, 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, The University of Texas does not discriminate on the basis of sexual orientation. This includes, but is not limited to, admissions, employment, financial aid, educational services, access to facilities, and services. The University, 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.

Policy on Release of Student Academic Data

The University of Texas Medical Branch at Galveston 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 protect the privacy of educational records and establish the rights of students to inspect and review their educational records. Students have the right to file complaints with the FERPA Office concerning alleged failures by the institution to comply with the act.

Copies of the act are available through the Office of Enrollment Services. Written requests for inspection of a student's own file may be made to the registrar, dean, head of the academic department, or other appropriate official.

The following categories of student information will be released upon written request and may be released upon verbal request to the registrar: name (including previous names), date of birth, enrollment (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 the provisions of FERPA, to cause the withholding of disclosure of information categorized in the preceding paragraph. A student's consent is presumed, unless a written request to restrict the information as confidential is made by the student in the Office of Enrollment Services (Attention: Registrar) on a prescribed form no earlier than the first day of registration and no later than the census date (normally the 12th class day) in a term. In cases in which the student files a request for restriction of information, such information is treated as confidential, except as provided by law. The request to withhold

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directory information is effective until the end of the academic year during which it is submitted. UTMB may disclose directory information about former students without providing the student notice of the opportunity to opt out of providing directory information to the public. However, UTMB will continue to honor any valid request to opt out of the disclosure of directory information made while the student was in attendance unless the student rescinds the opt out request.

Campus Security Report

In compliance with the Campus Security Act of 1990, UTMB prepares an annual Campus Security Report that is available to applicants, students, and employees online at (www.utmb.edu/securityreport). Printed copies of the report are available upon request from the University Police at (409) 772-1503.

Compliance with Americans with Disabilities Act

The University of Texas Medical Branch at Galveston complies with the Americans with Disabilities Act (ADA), 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, and activities of UTMB solely on the basis of the disability. Copies of the ADA and Section 504 of the Rehabilitation Act of 1973 are available in the Office of Student Services.

Accreditation

The University of Texas Medical Branch at Galveston is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the baccalaureate, master's, doctoral, and professional degrees. For questions about the University of Texas Medical Branch accreditation contact the Commission on Colleges at:

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

HIPAA

HIPAA is the Health Insurance Portability and Accountability Act of 1996. It includes stringent standards defining appropriate and inappropriate disclosures of individually identifiable health information and how patient rights are to be protected. All UTMB students, along with faculty and staff, are provided and required to complete training to assure understanding of and compliance with HIPAA privacy rules.

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 nearly 7000 degrees and certificates to graduates in such vital areas as clinical laboratory sciences, physical therapy, health information management, occupational therapy, radiologic health sciences, health care administration, physician assistant studies, and respiratory care. Today, the SHP offers baccalaureate degrees in Clinical Laboratory Sciences and Respiratory Care, master's degrees in Occupational Therapy and Physician Assistant Studies, and the professional doctorate in 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 medical complex serves as an autonomous learning laboratory for all students. UTMB Health's six Galveston hospitals and 100-plus outpatient clinics, emergency department, and research laboratories are an integral part of a health professions education. 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 45-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

Elizabeth J. Protas, PT, PhD, FACSM, FAPTA
Vice President and Dean

Kenneth J. Ottenbacher, OTR, PhD, FAOTA
Senior Associate Dean for Graduate Education and Research

Henry J. Cavazos, JD
Associate Dean for Academic and Student Affairs

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.

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** for all.
- We always act with **integrity**.
- We show **respect** to everyone we meet.
- We embrace **diversity** to best serve a global community.
- We promote excellence and innovation through **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 in Clinical Laboratory Sciences

Master of Science in Transfusion Medicine

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 Nutrition and Metabolism

Certificate in Dietetics

Bachelor of Science in Respiratory Care

Master of Health Professions, Physician Assistant Studies Track

Master of Health Professions, Respiratory Care Track

Master of Occupational Therapy

Master of Physician Assistant Studies

Doctorate of Physical Therapy

Certificate in Advanced Specialization in Pediatric Physical Therapy

Certificate in Advanced Specialization in Pediatric 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 2010	7 years TBA	TBA
NUTRITION AND METABOLISM	Accreditation Council for Education in Nutrition and Dietetics	December 2012	Candidacy for Accreditation	February 2014 - Combined MS/DI program September, 2015 - DI only
OCCUPATIONAL THERAPY	Accreditation Council for Occupational Therapy Education	November 2004	10 years	June 2015
PHYSICIAN ASSISTANT STUDIES	Accreditation Review Commission on Education for the Physician Assistant, Inc.	June 2010	7 years	2017
PHYSICAL THERAPY	Commission on Accreditation for Physical Therapy Education (CAPTE)	February 2005	10 years	2015
RESPIRATORY CARE	The Commission on Accreditation for Respiratory Care (CoARC)	February 2006	10 years	2016

Last Updated 12-01-2013

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.

Application Deadlines

SHP Application Deadlines			
Program	2013	2014	2015
Clinical Laboratory Sciences http://shp.utmb.edu/cls/application.asp	For CLS: see link For CLS–MPA: March 1, 2013	For CLS: see link For CLS–MPA: March 1, 2014	For CLS: see link For CLS–MPA: March 1, 2015
Nutrition and Metabolism	Dietetic Internship only – May 3, 2013 for Fall 2013 Admission	February 28, 2014 – Combined MS/DI program	September 30, 2015 – Dietetic Internship Only
Occupational Therapy	October 1, 2012	October 1, 2013	October 1, 2014
Physical Therapy	November 1, 2012	November 1, 2013	November 1, 2014
Physician Assistant Studies	September 1, 2012	September 1, 2013	September 1, 2014
Respiratory Care	August 1, 2013	July 31, 2014	July 31, 2015

SHP Application Fee

SHP Application Fee is \$50.00

Note – Physician assistant applicants apply through Central Application Service for Physician Assistants (CASPA) and pay the UTMB supplemental fee of \$30.00.

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 schools in order to be eligible to enroll in any subsequent term.

The University of Texas School of Health Professions at Galveston – Academic Calendar

NOTE: Holidays are subject to approval by The University of Texas System Board of Regents.

Most UTMB approved holidays are not listed within this calendar.

Approved UTMB Holidays are in Italics

Deadlines are in Bold

2012–2014 ACADEMIC CALENDAR

2012 Fall Semester (15 weeks in length)

Classes begin August 27 and end December 7

Matriculation for:

- Clinical Laboratory Sciences
- Occupational Therapy
- Physical Therapy (traditional and transitional)
- Physician Assistant Studies
- Respiratory Care

18-23	August	Orientation and Registration (SHP New Students)
26	August	Registration and Fee Payment Deadlines – Fall 2012 (all students)
27	August	Classes Begin
03	<i>September</i>	<i>Labor Day Holiday – No Classes</i>
04	September	Classes Resume
11	September	Last Day to Add or Drop a Course by 5:00 p.m. – Fall 2010
19	November	Last Day to Withdraw from a Course with a “W” – Fall 2012
22-23	<i>November</i>	<i>Thanksgiving Holidays (Thursday–Friday) – No Classes</i>
23	November	Online Course Evaluations Open at 8:00 am – Fall 2012 (Respiratory Care only)
26	November	Classes Resume
01	December	Online Registration Opens at 8:00 am for Returning Students – Spring 2013
03	December	Study Day – No Classes
04-07	December	Final Examination Period
07	December	Last Day of Fall 2012 Semester
10	<i>December</i>	<i>Holiday Recess for Students (returning January 03, 2013)</i>
11	December	Grades Due by 12:00 Noon – Fall 2012 (Completing Students)
21	December	Grades Due by 12:00 Noon – Fall 2012 (Returning Students)
25-31	<i>December</i>	<i>Winter Holiday – School Closed</i>
01	January	New Year’s Day Holiday – School Closed
04	January	Online Course Evaluations Close at 12:00 Midnight – Fall 2012 (Respiratory Care only)
07	January	Faculty may access course evaluations – Fall 2012

2013 Spring Semester (15 weeks in length)

Classes begin January 05 and end April 22

Matriculation for:

- Clinical Laboratory Sciences
- Physical Therapy (transitional)
- Respiratory Care

02	January	Registration and Fee Payment Deadlines – Spring 2013 (all students)
03	January	Classes Begin
04	January	Online Course Evaluations Close at 12:00 Midnight – Fall 2012
07	January	Faculty may access course evaluations – Fall 2012
17	January	Last Day to Add or Drop a Course by 5:00 p.m. – Spring 2013
17	January	Online Registration Closes at 5:00 p.m. for Returning Students – Spring 2013
21	January	<i>Martin Luther King, Jr.'s Birthday Observed – No Classes</i>
22	January	Classes Resume
11-15	March	<i>*Spring Break Holidays (Monday – Friday) – No Classes</i>
18	March	Classes Resume
25	March	Last Day to Withdraw from a Course with a “W” – Spring 2013
29	March	Online Course Evaluations Open at 8:00 am – Spring 2013 (Respiratory Care only)
01	April	Online Registration Opens at 8:00 am for Returning Students – Summer 2013
15	April	Study Day – No Classes
16-19	April	Final Examination Period
19	April	Last Day of Spring 2013 Semester (Completion Date for Diplomas)
24	April	Gradings & Promotions Committee Meeting (if necessary) – Time TBA
30	April	Grades Due by 12:00 Noon – Spring 2013 (All Students)
03	May	Online Course Evaluations Close at 12:00 Midnight – Spring 2013 (Respiratory Care only)
06	May	Faculty may access course evaluations – Spring 2013

**Spring Break holiday dates may vary for students in clinical affiliation experiences during the published Spring Break dates.*

2013 Summer Semester (14 weeks in length)

Classes begin April 29 and end August 02

Matriculation for:

- Clinical Laboratory Sciences
- Physical Therapy (transitional)
- Physician Assistant Studies (July 1st)
- Respiratory Care

28	April	Registration and Fee Payment Deadlines – Summer 2013 (all students)
29	April	Classes Begin
03	May	Online Course Evaluations Close at 12:00 Midnight – Spring 2013 (Respiratory Care only)
06	May	Faculty may access course evaluations – Spring 2013 (Respiratory Care only)

13	May	Online Registration Closes at 5:00 p.m. for Returning Students – Summer 2013
13	May	Last Day to Add or Drop a Course by 5:00 p.m. – Summer 2013
27	May	<i>Memorial Day Holiday Observed – No Classes</i>
28	May	Classes Resume
04	July	<i>Independence Day Holiday Observed – No Classes</i>
05	July	Classes Resume
22	July	Last Day to Withdraw from a Course with a “W” – Summer 2013
26	July	Online Course Evaluations Open at 8:00 am – Summer 2013 (Respiratory Care only)
29	July	Study Day – No Classes
30-31	July	Final Examination Period
01	August	Online Registration Opens at 8:00 am for Returning Students – Fall 2013
01-02	August	Final Examination Period
02	August	Last Day of Summer Full Term 2013 (Graduation Date for Diplomas)
06	August	Grades Due by 12:00 Noon – Summer 2013 (Completing Students)
07	August	Grading & Promotions Committee Meeting (if necessary) – Time TBA
13	August	Grades Due by 12:00 Noon – Summer 2013 (Returning Students)
16	August	Commencement (Friday) ~ (Graduation Date for Diplomas)
30	August	Online Course Evaluations Close at 12:00 Midnight – Summer 2013
02	September	Faculty may access course evaluations (Respiratory Care only) – Summer 2013

2013–2014 ACADEMIC CALENDAR

2013 Fall Semester (15 weeks in length)

Classes begin August 26 and end December 06

Matriculation for:

- Clinical Laboratory Science
- Occupational Therapy
- Physical Therapy (traditional and transitional)
- Physician Assistant Studies
- Respiratory Care

19-23	August	Orientation and Registration (SHP New Students)
25	August	Registration and Fee Payment Deadlines – Fall 2013 (all students)
26	August	Classes Begin
30	August	Online Course Evaluations Close at 12:00 Midnight – Summer 2013 (Respiratory Care only)
02	September	<i>Labor Day Holiday – No Classes</i>
02	September	Faculty may access course evaluations – Summer 2013 (Respiratory Care only)
03	September	Classes Resume
10	September	Online Registration Closes at 5:00 pm for Returning

		Students – Fall 2013
10	September	Last Day to Add or Drop a Course by 5:00 pm – Fall 2013
11	November	<i>Veteran's Day Holiday – No Classes</i>
12	November	Classes Resume
18	November	Last Day to Withdraw from a Course with a “W” – Fall 2013
22	November	Online Course Evaluations Open at 8:00 am – Fall 2013
28-29	November	<i>Thanksgiving Holidays (Thursday–Friday) – No Classes</i>
01	December	Online Registration Opens at 8:00 am for Returning Students – Spring 2014
02	December	Classes Resume
02	December	Study Day – No Classes
03-06	December	Final Examination Period – Fall 2013
06	December	Last Day of Fall 2013 Semester
17	December	Grades Due by 12:00 Noon – Fall 2013 (All Students)
24-31	December	<i>Winter Holiday – School Closed</i>
01	January	<i>New Year's Day Holiday – School Closed</i>
10	January	Online Course Evaluations Close at 12:00 Midnight – Fall 2013
13	January	Faculty may access course evaluations – Fall 2013

2014 Spring Semester (15 weeks in length)

Classes begin January 6 and end April 18

Matriculation for:

- Clinical Laboratory Science
- Respiratory Care

05	January	Registration and Fee Payment Deadlines – Spring 2014 (all students)
06	January	Classes Begin
10	January	Online Course Evaluations Close at 12:00 Midnight – Fall 2013
13	January	Faculty may access course evaluations – Fall 2013
20	January	<i>Martin Luther King, Jr.'s Birthday Observed – No Classes</i>
21	January	Classes Resume
21	January	Last Day to Add or Drop a Course by 5:00 pm – Spring 2014
21	January	Online Registration Closes at 5:00 pm for Returning Students – Spring 2014
17	February	Presidents' Day – No Classes
18	February	Classes Resume
10-14	March	<i>*Spring Break Holidays (Monday – Friday) – No Classes</i>
17	March	Classes Resume
31	March	Last Day to Withdraw from a Course with a “W” – Spring 2014
01	April	Online Registration Opens at 8:00 am for Returning Students – Summer 2014
04	April	Online Course Evaluations Open at 8:00 am – Spring 2014
21	April	Study Day – No Classes
22-25	April	Final Examination Period for Spring 2014
25	April	Last Day of Spring 2014 Semester (Completion Date for Diplomas)
06	May	Grades Due by 12:00 Noon – Spring 2014 (All Students)
09	May	Online Course Evaluations Close at 12:00 Midnight – Spring 2014
12	May	Faculty may access course evaluations – Spring 2014

**Spring Break holiday dates will vary for students in clinical affiliation experiences during the published Spring Break dates.*

2014 Summer Semester (14 weeks in length)

Classes begin May 05 and end August 08

Matriculation for:

- Clinical Laboratory Science LEAP
- Nutrition & Metabolism
- Physician Assistant Studies

04	May	Registration and Fee Payment Deadlines – Summer 2014 (all students)
05	May	Classes Begin – Summer 2014
09	May	Online Course Evaluations Close at 12:00 Midnight – Spring 2014
12	May	Faculty may access course evaluations – Spring 2014
19	May	Online Registration Closes at 5:00 pm for Returning Students – Summer 2014
19	May	Last Day to Add or Drop a Course by 5:00 pm – Summer 2014
26	May	<i>Memorial Day Holiday Observed – No Classes</i>
27	May	Classes Resume
02	June	Classes Begin – Nutrition & Metabolism students
01	July	Classes Begin – Physician Assistant Studies students
04	July	July 4th Holiday Observed – No Classes
21	July	Last Day to Withdraw from a Course with a “W” – Summer 2014
01	August	Online Course Evaluations Open at 8:00 am – Summer 2014
01	August	Online Registration Opens at 8:00 am for Returning Students – Fall 2014
04	August	Study Day – No Classes
05-08	August	Final Examination Period for Summer 2014
08	August	Last Day of Summer 2014
12	August	Grades Due by 12:00 Noon – Summer 2014 (Graduating/ Completing Students)
19	August	Grades Due by 12:00 Noon – Summer 2014 (Returning Students)
15	August	Commencement (Friday) ~ (Graduation Date for Diplomas)
05	September	Online Course Evaluations Close at 12:00 Midnight – Summer 2014
08	September	Faculty may access course evaluations – Summer 2014

Commencement

The School of Health Professions conducts commencement exercises in August and December. 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 will be invited to attend and to participate in the next commencement exercises. Additional information concerning commencement can be found on our website at http://shp.utmb.edu/asa/commencement_ceremony.asp.

Commencement dates are:

August 17, 2012

August 16, 2013

August 15, 2014

Department of Clinical Laboratory Sciences

Chair & Professor

Vicki Freeman, Ph.D., MLS(MASCP)^{CM}SC, FACB

Professor Emeritus

Michelle Kanuth, Ph.D., MLS(ASCP)^{CM}SBB

Ruth E. Morris, M.Ed., MT(ASCP)Professors

Barbara Bryant, M.D., MT (ASCP)SBB

Alexander J. Indrikovs, M.D., M.B.A.

Associate Professor

E. Camellia St. John, M.Ed., MT(ASCP)^{CM}SBB

Jianli Dong, M.D., Ph.D.

Natalie Williams-Bouyer, Ph.D.

Clinical Assistant Professors

Muneeza Esani, M.H.A., MT(ASCP)

Jane Finley, M.S., MT(ASCP)

Linda L. Myers, M.Ed., MT(ASCP)SH

Jose Salazar, M.S. MLS(ASCP)^{CM}

Leonce H. Thierry Jr., M.S., MLS(ASCP)^{CM}, CHES

Jian Zhang, M.D., M.S., M(ASCP)

Instructional Staff

Susan Ray, M.S., MT(ASCP)

Marla Stevenson, MT(ASCP)

Janet Vincent, M.S., (ASCP)SBB

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 2014, 20.5 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 benches 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.naaccls.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.

Three Year Track Program

The Three-Year Track Program is an enhanced program that provides extended time for program completion, strong academic and developmental support, expanded scope of course

work, and leadership education and practice. Students admitted to the Three-Year Track Program are required to select an additional 8–21 semester hours of credit from electives chosen with the approval of the advisor and department chair. Courses are evenly distributed with 12 credit hours per semester and 7 credit hours during the summer. The final phase of the third year is the same as the standard program—directed toward application of skills and knowledge through clinical experiences in various laboratories.

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 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 at Tyler. A student may apply to the UTMB-UTPB or the UT-Tyler program if he or she is a biology major at the UTPB or UT-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 UT-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.

Clinical Laboratory Sciences/Physician Assistant Studies Track

A dual-acceptance track into the Clinical Laboratory Sciences (baccalaureate level) and the Physician Assistant Studies (master's level) programs is available for students interested in this career path. Criteria for Acceptance into CLS/PA Track are as follows:

- Completed UTMB application to UTMB CLS program and paid application fee (\$50)
- Completed interview with both CLS and PA Program faculty
- Three references from instructors, advisors, employers, etc.
- Written explanation of extracurricular and/or work activities
- Written essay (topic announced and essay written on interview day)
- Supporting statement addressing interest and self-perception of suitability (i.e. character traits, life experiences, etc.) for the CLS and PA professions
- Completion of all science prerequisites for the CLS program (up to 9 hours of non-science prerequisites can be completed after entering program)
- Overall GPA of 3.0 (on a 4.0 scale) for overall and science GPA

Students will complete all degree requirements for the UTMB CLS program and all of the following prerequisites before entering the PA program:

- Complete all requirements for a B.S. degree in CLS
- Complete Central Application Service for PA (CASPA) application, including all official transcripts and supporting documents. Application can be found at <https://portal.caspaonline.org/>
- Meet application deadlines for program (contact CASPA/PA Program at <http://shp.utmb.edu/pas/prospective.htm> for deadlines)
- Pay appropriate application fees to CASPA & UTMB
- Have taken the Graduate Record Examination (GRE) verbal/quantitative sections within the last five years
- Complete all prerequisites for the PA studies program with a grade of "C" or better
- Participate in the PA Interview Day activities during the senior year of the CLS program

In the event an applicant does not complete all PA prerequisites prior to the matriculation date into the PA program, automatic admission may be withdrawn and the applicant may have to apply competitively.

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 <http://www.shp.utmb.edu/cls>.

Degree Plan beginning Fall 2012

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 3326 Methodology Development & Assessment	3
CLLS 4302 Clinical Preceptorship II	3
CLLS 4310 Clinical Chemistry II.....	3
CLLS 4312 Management Skills in Clinical Laboratory Sciences	3
CLLS 4415 Immunology/Immunohematology.....	4
TOTAL HOURS	16

Spring, Year 2

CLLS 3307 Molecular Biology.....	3
CLLS 4303 Clinical Preceptorship III.....	3
CLLS 4320 Problems in Clinical Laboratory Management.....	3
CLLS 4326 Research in Clinical Laboratory Sciences.....	3
TOTAL HOURS	12

Summer, Year 2

CLLS 4107 Seminar in Clinical Laboratory Sciences.....	1
CLLS 4304 Clinical Preceptorship IV.....	3
CLLS 4311 Case Studies in Clinical Laboratory Sciences.....	3
(Graduation) TOTAL HOURS	7

TOTAL PROGRAM HOURS

75

Degree Plan beginning Fall 2013

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 3327 Methodology Development & Assessment I.....	3
CLLS 4302 Clinical Preceptorship II	3
CLLS 4310 Clinical Chemistry II.....	3
CLLS 4415 Immunology/Immunoematology.....	4
TOTAL HOURS	13

Spring, Year 2

CLLS 3307 Molecular Biology	3
CLLS 3328 Methodology Development & Assessment II	3
CLLS 4303 Clinical Preceptorship III.....	3
CLLS 4313 Management Skills in Clinical Laboratory Sciences.....	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

Program Prerequisites*

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 our admissions chair, Jane Finley, at jbfinley@utmb.edu or (409) 772-3034, 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

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

GRADUATE LEVEL PROFESSIONAL CURRICULUM

The Master 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.

Two tracks for the degree are offered: Master of Science in Clinical Laboratory Science for CLS graduates and Master of Science in Clinical Laboratory Science for Science graduates.

Prerequisites for the Graduate Programs

Applicants to the clinical laboratory science master and PhD degree programs must have either a basic science or clinical laboratory science bachelors degree (depending on the track), including standard college courses in general chemistry, mathematics, microbiology, and biology (see list below). Previous laboratory experience is advantageous. Applications for admission must include a GPA of 3.0, scores from the general aptitude section of the Graduate Record Examination (GRE), and three letters of recommendation.

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.

Specific Prerequisites*

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

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 with 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 5326 Research in CLS ⁴	3
CLLS 5327 Laboratory Validation Studies.....	3
CLLS 5329 Research in CLS ⁵	3
CLLS 5330 Clinical Investigative Studies ⁵	3
CLLS 5332 Master's Project ²	3
CLLS 5414 Biochemistry ³	4
CLLS 6307 Molecular Diagnostics ^{1,3}	3
MSHP 5301 Medical Ethics	3
MSHP 5302 Scientific Writing	3
MSHP 5303 Health Policy.....	3

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

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

³The 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.

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
TOTAL HOURS	30/37

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

This program is an 83-credit blended (online with on-campus laboratory experiences) masters 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 UT Tyler.

Course of Study

Required Courses

CLLS 5200 Laboratory Techniques.....	2
CLLS 5307 Seminar ⁶	3
CLLS 5310 Serology/Blood Banking	3
CLLS 5311 Clinical Correlation	3
CLLS 5319 Biostatistics	3
CLLS 5320 Laboratory Management.....	3
CLLS 5326 Research in CLS ⁴	3
CLLS 5327 Laboratory Validation Studies	3
CLLS 5329 Research in CLS ⁵	3
CLLS 5330 Clinical Investigative Studies ⁵	3

continued, next page

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 Credit for this course if previously taken at BS level.

⁴ Discontinued course effective January 2014; replaced by CLLS 5329.

⁵ New course effective January 2014.

CLLS 5331	Urinalysis, Body Fluids & Parasitology.....	3
CLLS 5332	Master's Project 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/Immunoematology.....	4
CLLS 5417	Hematology/Coagulation I.....	4
CLLS 5506	Clinical Chemistry I	5
CLLS 6305	Advanced Microbiology/Mycology	3
CLLS 6307	Molecular Diagnostics ³	3
CLLS 6310	Clinical Chemistry II.....	3
CLLS 6417	Coagulation/Hematology II.....	4
MSHP 5301	Medical Ethics	3
MSHP 5302	Scientific Writing	3
MSHP 5303	Health Care Policy	3

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

80/87

Master of Science in Transfusion Medicine for CLS/SBB graduates (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 immunoematology and transfusion therapy.

The MS in Transfusion Medicine program is a 27/30-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 from an accredited program. 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 immunoematology and transfusion therapy. This program would be offered as a full-time or 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.

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 immunoematology.

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

³ Students who have successfully completed Biochemistry for science majors or Molecular Biology with lab may request course equivalency.

⁴ Discontinued effective January 2014; replaced by CLLS 5329.

⁵ New course effective January 2014.

⁶ New course effective July 2013; replaces CLLS 5107.

Upon graduation, the student will be prepared to take the specific specialization examination for Blood Banking. 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

Required Courses

CLLS 5307 Molecular Diagnostics ^{1,3}	3
CLLS 5320 Laboratory Management.....	3
CLLS 5326 Research in CLS	3
CLLS 5327 Laboratory Validation Studies.....	3
CLLS 5329 Clinical Laboratory Science Research ⁵	3
CLLS 5330 Clinical Investigative Studies ⁵	3
CLLS 5332 Master's Project ²	3
MSHP 5301 Medical Ethics	3
MSHP 5302 Scientific Writing	3
MSHP 5303 Health Care Policy	3

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

27/30

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.

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 conduct the project and write a paper describing the project, findings and conclusions.

³ Students who have successfully completed Molecular Biology with lab may request course equivalency.

⁴ Discontinued course effective January 2014; replaced by CLLS 5329.

⁵ New course effective January 2014.

CATEGORICAL CERTIFICATE LEVEL PROFESSIONAL CURRICULUM

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
CLLS 4312 Management Skills in Clinical Laboratory Sciences	3
TERM HOURS	5 (9)

SPRING

CLLS 3231 Urinalysis and Body Fluids.....	2
CLLS 3514 Clinical Chemistry I	5
TERM HOURS	7

SUMMER

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

TOTAL CERTIFICATE HOURS	18 (22)
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Hematology Categorical Certificate

FALL

CLLS 3200 Basic Methods and Intro to Lab Operations	2
CLLS 3417 Hematology and Coagulation I.....	4
CLLS 4312 Management Skills in Clinical Laboratory Sciences	3
TERM HOURS	9

SPRING

CLLS 3231 Urinalysis and Body Fluids.....	2
CLLS 4417 Coagulation and Hematology II	4
TERM HOURS	6

SUMMER

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

TOTAL CERTIFICATE HOURS	18
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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
CLLS 4312 Management Skills in Clinical Laboratory Sciences	3
TERM HOURS	9 (13)

SPRING

CLLS 3231	Urinalysis and Body Fluids.....	2
CLLS 3514	Clinical Chemistry I	5
CLLS 4417	Coagulation and Hematology II	4
	TERM HOURS	11

SUMMER

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

TOTAL CERTIFICATE HOURS 26 (30)

Immunohematology Categorical Certificate**SUMMER**

CLLS 3200	Basic Methods and Intro to Lab Operations	2
CLLS 3310	Serology/Blood Bank.....	3
	TERM HOURS	5

FALL

CLLS 4301	Clinical Preceptorship I.....	3
CLLS 4312	Management Skills in Clinical Laboratory Sciences	3
CLLS 4315	Immunohematology/Immunology.....	4
	TERM HOURS	10

TOTAL CERTIFICATE HOURS 15

Microbiology Categorical Certificate**FALL**

CLLS 3200	Basic Methods and Intro to Lab Operations	2
CLLS 3405	Intermediate Pathogenic Microbiology	4
CLLS 4312	Management Skills in Clinical Laboratory Sciences	3
	TERM HOURS	9

SPRING

CLLS 4325	Advanced Microbiology/Mycology	3
CLLS 4417	Coagulation and Hematology II	4
	TERM HOURS	7

SUMMER

CLLS 4301	Advanced Microbiology/Mycology	3
	TERM HOURS	3

TOTAL CERTIFICATE HOURS 19

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 (TOFEL) 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>]

Prerequisite Requirements for CLS Department Categorical Certificates

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

- | | |
|-------------------------------------|-------------------------|
| 1) Human physiology | 3 semester credit hours |
| 2) General chemistry ¹ | 8 semester credit hours |
| 3) Biological sciences ¹ | 8 semester credit hours |
| 4) Mathematics ² | 3 semester credit hours |
| 5) Microbiology ¹ | 8 semester credit hours |

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.

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

²The mathematics course must be college algebra or higher.

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 3326 Methodology Development and Assessment**3 Credits**

The student will be given the opportunity to: 1) select a clinical laboratory methodology for trial use by surveying the literature; 2) apply method evaluation principles, statistics, and experiments to judge the acceptability of a selected method; 3) identify the potential sources of error; 4) identify advantages and limitations of the method in terms of cost, time, and adaptability to the clinical laboratory; 5) write a manuscript according to the format of scientific journals; and 6) prepare Institutional Review Board (IRB) forms. (45 lecture hours per enrollment period) *Prerequisites: None.*

CLLS 3327 Methodology Development and Assessment I**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: CLLS 4310 Clinical Chemistry I or its equivalent.*

CLLS 3328 Methodology 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: CLLS 3327 Methodology Development & Assessment I.*

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 trends 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 4107 Seminar in Clinical Laboratory Sciences**1 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, and panel discussions. Included in this course are review and practice examinations as well as a comprehensive battery of examinations encompassing four 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. (1–5 seminar hours and 12 optional conference or review hours per enrollment period) *Prerequisites: Successful completion of all required courses or co-enrollment in outstanding courses.*

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 related 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 4312 Management Skills in Clinical Laboratory Sciences**3 Credits**

The students will be given the opportunity to: 1) develop an understanding of how health care issues and trends affect the practice of clinical laboratory sciences; 2) identify the manner in which regulatory agencies influence the management of practice settings; 3) discuss the elements of the supervisory process; 4) identify the fiscal elements of clinical laboratory sciences practice as related to planning and productivity; and 5) develop an awareness of the role of marketing in laboratory development. (45 lecture hours per enrollment period) *Prerequisites: None.*

CLLS 4313 Management Skills in Clinical Laboratory Sciences**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 4320 Problems in Clinical Laboratory Management**3 Credits**

The student will be given the opportunity to: 1) describe the principles, practices, and applications of laboratory utilization, critical pathways, and clinical decision making; 2) discuss 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) discuss the evaluation and implementation of laboratory information systems; 6) develop protocols for quality assurance, including monitoring and evaluating the quality of the testing process of each test to be performed; standards for maintaining acceptable test methods, equipment,

(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 5107 Seminar in CLS 1 Credit

The student will be given the opportunity to: 1) demonstrate problem solving skills related to clinical laboratory sciences; 2) integrate theoretical concepts to determine whether patient results can be safely reported; 3) propose solutions to resolve technical causes of patient results; and 4) correlate laboratory finding with patient signs and symptoms. Included in this course are review and practice examinations as well as a comprehensive battery of examinations encompassing four 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. (15 seminar hours and 12 optional conference or review hours per enrollment period) *Prerequisites: None.*

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 5227 Clinical Laboratory Methods 2 Credits

The student will be given the opportunity to demonstrate: 1) the ability to perform basic clinical laboratory procedures within acceptable limits of accuracy; 2) an understanding of the significance of laboratory test results; 3) knowledge of correct collection and handling of specimens for laboratory testing; and 4) an appreciation for the value of laboratory test results in patient care. Instruction may include one or more of the following laboratory areas: hematology, urinalysis, microbiology, and clinical chemistry. (15 lecture and 30 lab hours per

enrollment period) *Prerequisites: Matriculation in Physician Assistant Studies (PAS) Program or consent of instructor.* Note: For non-CLS majors only.

CLLS 5307 Seminar in CLS

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: None.*

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) *Prerequisite: Baccalaureate in CLS/MT or 49 hours in CLLS courses.*

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 5326 Research in CLS**3 Credits**

The student will be given the opportunity to: 1) integrate skills in application of computer programs, spreadsheets, and databases; 2) complete a research proposal; 3) conduct a pilot study; 4) conduct, under supervision, research on a topic directly related to the professional discipline; and 5) complete a report including statistical analysis of the study. (15 lecture hours, 45 lab hours, and 15 conference, discussion, or seminar hours per enrollment period) *Prerequisite: CLLS 5327 Laboratory Validation Studies.* Note: The course may be repeated for credit when the content varies.

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). *Prerequisite: 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.) *Prerequisite: 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). *Prerequisite: 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) *Prerequisite: 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 5332 Master's Project 3 Credits

The student will be given the opportunity to complete a rigorous project that 1) constructs focused investigation of clinical laboratory science problem in real-world setting; 2) applies problem solving methodologies for development and execution of solutions; and 3) investigates and applies theory through practical implementation project (15 hours conference, 90 hours laboratory) *Prerequisite: 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) *Prerequisite: 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) *Prerequisite: 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) *Prerequisite: 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) *Prerequisite: 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 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 Immunoematology 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 immunoematology 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) *Prerequisite: 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) *Prerequisite: CLLS 5414 Biochemistry or equivalent.*

CLLS 6305 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) *Prerequisite: CLLS 5405 Intermediate Pathogenic Microbiology.*

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) *Prerequisite: 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) *Prerequisite: CLLS 5514 Clinical Chemistry I.*

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) *Prerequisite: 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)

MSHP 5302 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)

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)

Department of Nutrition and Metabolism

Chair and Professor

Blake Rasmussen, Ph.D.

Professor

Douglas Paddon-Jones, Ph.D.

Assistant Professor

Astrid Inniss, Ph.D., R.D., L.D.

Clinical Instructors

Jane Louis, R.D., C.S.R., L.D.

Christopher Messenger, M.S., R.D., C.N.S.C., L.D.

THE DIETETICS PROFESSION

Dietitians are regarded as experts in the science of food and nutrition. They have special skills in translating scientific and medical decisions related to food and health. They inform the general public of the relationship between diet and health, and play an important role in health promotion. Dietitians work in many settings such as hospitals and clinics, residential care facilities, schools 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 and media.

CAREER OPPORTUNITIES

According to the Bureau of Labor Statistics, employment of dietitians is expected to increase 9 percent during the 2008-18 projected decade. 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

Intellectual:

- Use current informatics technology to develop, store, retrieve and disseminate information and data.
- Evaluate emerging research for application in dietetics practice.
- Justify programs, products, services and care using appropriate evidence or data.
- Refer clients and patients to other professionals and services when needs are beyond one's individual scope of practice

Communication:

- Use effective education and counseling skills to facilitate behavior change
- Demonstrate effective communications skills for clinical and customer services in a variety of formats.
- Demonstrate negotiation skills

Counseling and Patient Education:

- Assess the nutritional status of individuals, groups and populations in a variety of settings where nutrition care is or can be delivered.
- Diagnose nutrition conditions and create problem, etiology, signs and symptoms (PES) statements.
- Plan and implement nutrition interventions to include prioritizing the nutrition diagnosis, formulating a nutrition prescription, establishing goals and selecting and managing intervention.
- Monitor and evaluate problems, etiologies, signs, symptoms and the impact of interventions on the nutrition diagnosis.
- Complete documentation that follows professional guidelines, guidelines required by health care systems and guidelines required by the practice setting

Behavioral:

- Practice in compliance attributes within various organizational cultures

LICENSING/CERTIFICATION

The educational and professional requirements to become an RD involve the completion of a bachelor's degree from an accredited university or college in dietetics, foods and nutrition, or a related field. 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). An ACEND-accredited supervised practice experience providing a minimum of 1200 hours is required upon completion of the bachelor's degree. Successful passing of the national examination administered by the Commission on Dietetics Registration (CDR) is the final step to becoming an RD. In addition to RD credentialing, many states have regulatory laws requiring licensure.

EDUCATIONAL PHILOSOPHY OF THE PROGRAM

The program is committed to providing a broad range of experiences to interns so they may become competent dietitians in multiple 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 objectives of the curriculum are:

1. 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 and 2. Provide supervised practice experience in the form of a certification program for individuals with a post-baccalaureate degree seeking to become registered dietitians. The dietetic internship provides four specific goals:

Goal 1: Prepare students to become competent dietitians/practitioners for employment in entry-level positions.

Goal 2: Prepare graduates for leadership and professional roles in dietetics and nutrition in aging.

PROFESSIONAL CURRICULUM

Combined Masters/Dietetic Internship

The four semester, full-time program is a non-thesis master's program which requires 2 semesters of didactic coursework. The dietetic internship follows completion of the MS degree didactic coursework, consisting of 1240 hours of supervised practice experience, required for completion of the program. A total of 44 credit hours are required for completion of the program; 24 credit hours toward the Master's Degree, and 20 credit hours toward the supervised practice experience. Upon completion of the combined program, students will be conferred a Master's Degree in Nutrition and Metabolism, plus a certificate of completion for the Dietetic Internship. Graduates will be eligible to take the registered dietitian exam.

Dietetic Internship – Without the Masters Degree

The supervised practice exam earns 20 credit hours in approximately 33 weeks. Candidates complete the program as UTMB-SHP graduate students and will receive a certificate of completion from the institution. This full-time option requires 1240 hours of supervised practice. Upon completion, students will be eligible to take the registered dietitian 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/Fail.

Combined Masters/Dietetic Internship Course of Study

Summer, Year 1

NUTR 6101 Professional Issues in Clinical Nutrition.....	1
NUTR 6102 Ethics and Clinical Nutrition	1
NUTR 6202 Evidence-Based Practice-Clinical Nutrition	2
NUTR 6400 Advanced Nutrition & Metabolism	4
NUTR 6401 Nutrition & Metabolism in Life Cycle.....	4
TOTAL HOURS	12

Fall, Year 1

NUTR 6205 Nutrition & Metabolism-Sports & Exercise	2
NUTR 6206 Nutrition & Metabolism Seminar	2
NUTR 6304 Weight Control I Management	3
NUTR 6503 Advanced Medical Nutrition Therapy.....	5
TOTAL HOURS	12

Spring, Year 2

NUTR 5110 Management of Nutritional Care.....	1
NUTR 5411 Clinical I.....	4
NUTR 5412 Clinical II	4
TOTAL HOURS	9

Summer, Year 2

NUTR 5210 Management in Ext. Care	2
NUTR 5211 Community Nutrition	2
NUTR 5320 Research	3
NUTR 5413 Foodservice (Hospital & School).....	4
TOTAL HOURS	11

Dietetic Internship Course of Study

Spring

NUTR 5110 Management of Nutritional Care.....	1
NUTR 5411 Clinical I.....	4
NUTR 5412 Clinical II.....	4
TOTAL HOURS	9

Summer

NUTR 5211 Community Nutrition.....	2
NUTR 5320 Research.....	3
NUTR 5210 Management in Ext. Care.....	2
NUTR 5413 Foodservice (Hospital & School).....	4
TOTAL HOURS	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 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 have the opportunity to: 1) incorporate techniques learned in Clinical I and Clinical II to assess, diagnose, plan and implement nutrition interventions to patients; 2) demonstrate competence as an entry level dietitian in the nutrition care process; 3) demonstrate knowledge and skill through a culminating experience of providing staff relief. (80 Practicum per enrollment period) *Corequisites: Enrollment in Dietetic Internship NUTR courses.*

NUTR 5210 Supervised Practice: Management in Extended Care **2 Credits**

The student will have the opportunity to: 1) assess the nutritional status of individuals in a long-term care setting; 2) diagnose nutrition problems and create problem, etiology, signs and symptoms (PES) statements; 3) monitor and evaluate problems, etiologies, signs, symptoms and the impact of interventions on the nutrition diagnosis; 4) complete documentation that follows professional guidelines required by health care systems and guidelines required by the practice setting. (120 Practicum per enrollment period) *Corequisites: Enrollment in Dietetic Internship NUTR courses.*

NUTR 5211 Supervised Practice: Community Nutrition **2 Credits**

The student will have the opportunity to: 1) assess the nutritional status of individuals in a variety of settings where nutrition care is delivered; 2) participate in community-based, health promotion/disease prevention programs; 3) develop appropriate educational materials for a target audience; 4) conduct and in-service for a target population. Scheduled times for community-supervised practice experiences will vary depending upon interests. (120 Practicum per enrollment period) *Corequisites: Enrollment in Dietetic Internship NUTR courses.*

NUTR 5320 Supervised Practice: Research in Nutrition **3 Credits**

The student will have the opportunity to: 1) demonstrate competence through participation in nutrition-related research activities tailored to the needs of the facility; 2) document the responsibilities of the dietitian in a research facility; 3) evaluate emerging research for application in dietetics practice. The student will spend 40 hours or 160 hours completing supervised practice activities, depending on research interests. (200 Practicum per enrollment period) *Corequisites: Enrollment in Dietetic Internship NUTR courses.*

NUTR 5411 Supervised Practice: Clinical Nutrition I **4 Credits**

The student will have the opportunity to: 1) assess the nutritional status of individuals in a variety of settings where nutrition care is delivered; 2) diagnose nutrition problems and create problem, etiology, signs and symptoms (PES) statements; 3) monitor and evaluate problems, etiologies, signs, symptoms and the impact of interventions on the nutrition diagnosis; 4) complete documentation that follows professional guidelines required by health care systems and guidelines required by the practice setting (240 hours Practicum per enrollment period) *Corequisites: Enrollment in Dietetic Internship NUTR courses.*

NUTR 5412 Supervised Practice: Clinical Nutrition II **4 Credits**

The student will have the opportunity to: 1) assess the nutritional status of individuals in a variety of settings where nutrition care is delivered; 2) diagnose nutrition problems and create problem, etiology, signs and symptoms (PES) statements; 3) monitor and evaluate problems, etiologies, signs, symptoms and the impact of interventions on the nutrition diagnosis; 4) complete documentation that follows professional guidelines required by health care systems and guidelines required by the practice setting. This course is a continuation of Clinical I. (240 hours Practicum per enrollment period) *Corequisites: Enrollment in Dietetic Internship NUTR courses.*

NUTR 5413 Supervised Practice: Hospital Service & School Food Service Management **4 Credits**

The student will have the opportunity to: 1) identify and participate in management of human resources; 2) perform management functions related to safety, security and sanitation that affect employees, customers, patients, facilities and food; 3) evaluate and assist in quality improvement activities for food service operations; 4) demonstrate management competencies as manager-on-duty as a culminating experience. The student will spend 120 hours or 160 hours in hospital food service management and a second 120 hours in school food service management for a total of 240 hours or 280 hours supervised practice hours. (240 Practicum per enrollment period) *Corequisites: Enrollment in Dietetic Internship NUTR courses.*

NUTR 6101 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 6102 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 6401 Nutrition & Metabolism in the Life Cycle**4 Credits**

The student will be given the opportunity to: 1) determine the role of nutrition and dietary factors on the growth; 2) development, and maintenance of health throughout the human life cycle; 3) integrate the nutritional guidelines/recommendations, special nutritional needs, physiology, and nutritional health concerns for each stage of the human lifecycle beginning with preconception and continuing throughout adulthood and aging. (60 lecture hours per enrollment period) *Corequisites: Enrollment in MS degree courses.*

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 both program options:

1. Proof of a bachelor's degree in nutrition and/or dietetics from an ACEND accredited program in nutrition and/or dietetics and/or related major from an **accredited college or university**. Proof of earned degree may be provided by either final transcript or by letter from the registrar. (Alternatively, prospective students may have earned a bachelor's degree in an unrelated field but completed post-baccalaureate didactic coursework in dietetics from an accredited college or university).
2. Official verification statement from ACEND accredited Didactic Program in Dietetics (DPD).
3. For Combined MS/DI program, in addition to the above admission requirements, individuals applying to the combined program must submit GRE scores along with their application. With your official transcript(s), please include procedures for GPA calculation from registrar or University catalog. Scoring begins at the level of 3.0 GPA in your courses in food, nutrition, and foodservice management, i.e. a 3.0 GPA is required in your main dietetic-related courses.
4. Complete computer matching form at <http://www.dnndigital.com>.
5. Complete the Academy of Nutrition and Dietetics Dietetic Internship (DI) application, which can be found at <http://shp.utmb.edu/nutr/> or www.eatright.org.
6. Complete the Student Profile Sheet for the Nutrition and Metabolism Department at http://shp.utmb.edu/asa/asa_forms.asp.
7. Apply and gain acceptance to either the M.S. program, dietetic internship program or both programs. Students applying to the combined Master's/Dietetic Internship program must also submit GRE scores in addition to official transcripts.
8. Proof of current health insurance (required of all UTMB students), car insurance and a medical exam.
9. Submit an application letter with your application as supporting documentation. Please note that the required format is Times New Romans 12 (font) and the document should be single spaced, double spaced between paragraphs with a one (1) inch margin. Your application letter should contain the following information:
 - a) your career goals and how they relate to the internship;
 - b) your desire for the Nutrition in Aging emphasis and;
 - c) your background and experience that strengthens your ability to succeed in the internship and in the profession.
10. Minimum overall GPA of 3.0 (out of 4.0), and a minimum DPD GPA of 3.3 (out of 4.0).

Department of Occupational Therapy

Chair and Associate Professor

Patricia Fingerhut, OTR, Ph.D.

Professors

Kenneth J. Ottenbacher, OTR, Ph.D., FAOTA

Professor Emeritus

Mary F. Heermans, O.T., M.S.,

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

Associate Professor Emeritus

Donald A. Davidson, OTR, M.A.

Gretchen Stone, OTR, Ph.D., FAOTA

Assistant Professor Emeritus

C. Elizabeth Tipple, O.T., B.S.

Associate Professor

Timothy Reistetter, OTR, Ph.D., FAOTA

Assistant Professor

Kira Beal, OTR, OTDDiane Collins, OTR, Ph.D.

April Cowan, OTR, OTD, CHT

Tara Patterson, Ph.D.Cara Westerman, MOT

Clinical Professor

Beatriz C. Abreu, OTR, Ph.D., FAOTA

Clinical Assistant Professors

Janis G. Hunter, OTR, M.A.

Brent E. Masel, M.D.

Clinical Instructor

Michael Serghiou, OTR

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.

In today's health care and social landscape, occupational therapy practitioners can be found in the six broad areas of practice, including children and youth, health and wellness, mental health, productive aging, rehabilitation, disability and participation and work and industry. (AOTA, 2010)

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. These new specialties include training workers to use proper ergonomics on the job, helping people with low vision maintain their independence, making buildings and homes more accessible, older driver evaluation and training, and promoting population and community health and wellness. (AOTA, 2010)

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 30-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
TOTAL HOURS	14

Semester 2 (Spring – 1st Year)

OCCT 5113 Applied Reasoning II	1
OCCT 5121 Fieldwork Practicum I.....	1
OCCT 5222 Musculoskeletal Lab	2
OCCT 5223 Musculoskeletal Practice.....	2
OCCT 5315 Use of Self and Groups	3
OCCT 6225 Legal and Ethics	2
OCCT 6313 Foundations of Research I	3
OCCT 6319 Foundations for Neurological Practice	3
TOTAL HOURS	17

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 6222 Selective I	2
OCCT 6226 Neurological Lab.....	2
OCCT 6310 Psychosocial Practice.....	3
OCCT 6318 Learning and Cognition.....	3
TOTAL HOURS	16

Semester 4 (Fall – 2nd Year)

OCCT 6120 Applied Reasoning IV	1
OCCT 6131 Fieldwork Practicum III.....	1
OCCT 6207 Experience of Practice	2
OCCT 6219 Child Practice Lab.....	2
OCCT 6308 Practice with Children	3
OCCT 6317 Specialized Practice	3
OCCT 6330 OT Management	3
OCCT 6220 Applied Reasoning for EBP	2
TOTAL HOURS	15

Semester 5 (Spring – 2nd Year)

OCCT 6900 Level II Fieldwork	9
TOTAL HOURS	9

Semester 6 (Summer – 2nd Year)

OCCT 6224 Strengthening Core Knowledge	2
OCCT 6900 Level II Fieldwork	9
TOTAL HOURS	11

TOTAL PROGRAM HOURS
82

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.

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 allied health sciences.

OCCT 5110 Applied Reasoning I

1 Credit

On the basis of a videotaped sample of behavior, the student will be given the opportunity to: 1) describe how a person's performance is related to context and environment; 2) describe how a person's performance is related to type of occupation; 3) describe how type of occupation is related to context and environment; and 4) practice ways of thinking about a person engaged in an activity by applying aspects of the OT process. (45 lab hours per enrollment period) *Prerequisites: None.*

OCCT 5113 Applied Reasoning II

1 Credit

On the basis of a videotaped sample of behavior, the student will be given the opportunity to: 1) explain how use of self as a therapeutic tool during an intervention session is part of the OT process; 2) explain how incorporating group activities into an intervention is part of the OT process; 3) analyze legal and ethical issues that emerge during the process of providing occupational therapy; 4) explain relationships among activity demands and ability to take action; and 5) select an intervention approach that is appropriate for enhancing performance in a particular area of occupation. (45 lab hours per enrollment period) *Prerequisites: 1st semester.*

OCCT 5114 Patient Care Skills

1 Credit

The student will have the opportunity to: 1) develop beginning competence in basic occupational therapy assessments including understanding of interpersonal components; 2) demonstrate basic occupational therapy intervention strategies and techniques; and 3) develop beginning competence in basic management procedures. (30 lab hours per enrollment period) *Prerequisites: None.*

OCCT 5121 Fieldwork Practicum I

1 Credit

The student will have the opportunity to: 1) utilize universal precaution and infection control techniques; 2) develop beginning competence in basic assessment and interventions techniques for various adult physical disabilities in clinical settings; 3) identify the roles

of occupational therapy practitioners and other interdisciplinary team members and their unique differences; 4) describe the nature of professionalism and effective interpersonal communication in a variety of practice areas; 5) demonstrate awareness of the impact of contextual factors on a client's performance; and 6) demonstrate beginning clinical reasoning skills. (40 clinical and 8 seminar hours per enrollment period) *Prerequisites: 1st semester.*

OCCT 5212 Domain: Context & Environment

2 Credits

The student will be given the opportunity to: 1) identify context and environment as a domain of OT; 2) describe how context and environment affect participation in daily activity; 3) demonstrate skill in identifying, selecting, and administering assessments for context and environment; 4) describe ways the environment can be modified to enhance performance in daily activity; and 5) apply theoretical principles related to context and environment as they apply to participation in daily activity. (15 lecture and 30 lab hours per enrollment period) *Prerequisites: None.*

OCCT 5220 Domain: Human Occupation

2 Credits

The student will be given the opportunity to: 1) identify occupation as a domain of OT; 2) describe how various conditions affect occupational participation; 3) demonstrate skill in identifying, selecting, and administering assessments for occupational participation; 4) describe development of occupations across the lifespan; 5) apply theoretical principles related to occupation as they apply to participation in daily activity; 6) describe the impact of cultural diversity on occupational participation; and 7) distinguish the significance of roles, routines, and habits in occupational participation. (15 lecture and 30 lab hours per enrollment period) *Prerequisites: None.*

OCCT 5221 Domain: Personal Performances

2 Credits

The student will be given the opportunity to: 1) identify personal performance as a domain of OT; 2) describe how various conditions affect personal performance; 3) demonstrate skill in identifying, selecting, and administering assessments for selected personal performance areas; 4) describe development of selected body structures, body functions, and performance skills across the lifespan; and 5) apply theoretical principles related to personal performance as they apply to participation in daily activity. (15 lecture and 30 lab hours per enrollment period) *Prerequisites: None.*

OCCT 5222 Musculoskeletal Lab

2 Credits

The student will have the opportunity to address musculoskeletal problems by: 1) applying the principles of splinting; 2) constructing splints and casts; 3) using select physical agent modalities; and 4) evaluate using assessment tools. (60 lab hours per enrollment period) *Prerequisites: 1st semester.*

OCCT 5223 Musculoskeletal Practice

2 Credits

The student will have the opportunity to: 1) describe a variety of musculoskeletal conditions and associated occupational challenges; 2) demonstrate understanding of theoretical principles related to musculoskeletal aspects of performance; 3) identify, select and administer assessments for musculoskeletal aspects of performance; 4) develop and apply intervention techniques to remediate musculoskeletal problems that interfere with performance; 5) develop and apply intervention techniques to compensate for challenges to participation in daily activity; and 6) document aspects of the OT process. (15 lecture and 45 lab hours per enrollment period) *Prerequisites: 1st semester.*

OCCT 5311 OT Process and Foundations**3 Credits**

The student will have the opportunity to: 1) demonstrate the reasoning process that characterizes occupational therapy; 2) demonstrate skill in using diverse modes of thought essential to practice; 3) apply professional reasoning, the occupational therapy process, and the Occupational Therapy Practice Framework to a case; 4) describe the various roles of occupational therapy practitioners; and 5) describe historical influences that have shaped trends of thought and action in occupational therapy. (15 lecture, 45 lab and 15 seminar hours per enrollment period) *Prerequisites: None.*

OCCT 5315 Use of Self and Groups**3 Credits**

The student will have an opportunity to: 1) demonstrate understanding of the concepts, attitudes, and behaviors that support effective personal and professional communication; 2) exercise basic mastery of intrapersonal and interpersonal strategies that support effective and collaborative relationships; 3) implement individualized approaches to sound communication practices; 4) describe the characteristics of groups used in occupational therapy; and 5) demonstrate beginning competence in leading, critiquing, and documenting group sessions. (15 lecture, 60 lab and 15 seminar hours per enrollment period) *Prerequisites: 1st semester.*

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

The student will be given the opportunity to: 1) acquire basic knowledge about body structures and functions that support performance skills, occupational performance, and occupational engagement; 2) apply activity analysis; and 3) administer assessments related to body structures and performance skills. (30 lecture and 45 lab hours per enrollment period) *Prerequisites: None.*

OCCT 6110 Applied Reasoning III**1 Credit**

On the basis of a videotaped sample of behavior, the student will be given the opportunity to: 1) describe behaviors that are consistent with challenges addressed in psychosocial practice; 2) describe how psychological and social behaviors that present challenges to participation in daily activity would be assessed; 3) describe behaviors associated with challenges addressed in adult neurological practice; 4) describe how a behavior typically viewed as a challenge addressed in neurological practice would be assessed; 5) select an intervention approach for a person with a neurological condition who has difficulty acquiring new knowledge and skills to participate a self care or social activity; 6) explain how a specific intervention approach addresses participation in daily activities when a person faces complex challenges; and 7) discuss the pros and cons of two or more intervention approaches to decide on the approach that offers the strongest evidence for meeting challenges faced by a person with a neurological condition. (45 lab hours per enrollment period) *Prerequisites: 1st and 2nd semesters.*

OCCT 6121 Fieldwork Practicum II**1 Credit**

The student will have the opportunity to: 1) Demonstrate understanding of the role of occupations and occupational therapy in psychosocial practice; 2) demonstrate an awareness of the contextual factors in a variety of practice areas; 3) demonstrate knowledge of theoretical constructs in relation to observation of psychosocial practice settings; 4) demonstrate active engagement in discussions that integrate theoretical and practical learning in psychosocial practice settings; 5) demonstrate application of clinical reasoning skills in psychosocial practice settings; 6) demonstrate competency in select aspects of the occupational therapy process to include formulating assessment, goal writing, and documentation in psychosocial

practice settings; and 7) develop an understanding of the nature of professionalism and effective interpersonal communication in a variety of practice areas. Contact Hours: 40 clinical hours, 6 conference hours, and 4 laboratory hours. *Prerequisites: 1st and 2nd semester.*

OCCT 6131 Fieldwork Practicum III

1 Credit

Through lecture, assigned readings, and structured activities, the student will have the opportunity to:

1) demonstrate understanding derived from learning experiences in pediatric practice settings; 2) demonstrate knowledge of theoretical constructs as applied in pediatric practice settings; 3) demonstrate active engagement in discussions that integrate theoretical and practical learning in pediatric practice settings; 4) demonstrate application of clinical reasoning skills in pediatric practice settings; and 5) demonstrate competency in select aspects of the occupational therapy process to include formulating assessment, goal writing, and documentation in pediatric practice settings.. 40 clinical hours, 6 conference hours, and 4 laboratory hours. *Prerequisites: 1st, 2nd, and 3rd semesters.*

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 per enrollment period) *Prerequisites: 1st, 2nd, and 3rd semesters.*

OCCT 6216 Foundations of Research II

2 Credits

The student will be given the opportunity to: 1) develop beginning skills to implement or replicate a research study, including methods of data collection and analysis; 2) analyze and interpret basic descriptive, correlational, and inferential statistics; 3) demonstrate basic skills in presenting research findings and preparing a research study for publication; and 4) demonstrate the process of locating funding opportunities and securing grants that serve as a fiscal resource for research and practice. (15 lecture and 30 lab hours per enrollment period) *Prerequisites: 1st and 2nd semesters.*

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 per enrollment period) *Prerequisites: 1st, 2nd, and 3rd semesters.*

OCCT 6220 Applied Reasoning for EBP

2 Credits

On the basis of a videotaped sample of behavior, the student will be given the opportunity to: 1) identify behaviors that are consistent with challenges addressed in practice with children; 2) analyze why a specific intervention approach enhances participation in daily activities when a child faces complex challenges; 3) describe systems that support occupational therapy services for children; and 4) compare and contrast how different intervention approaches for children are related to different occupational outcomes (45 lab hours). *Prerequisites: 1st, 2nd, and 3rd semesters.*

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

The student will have the opportunity to: 1) identify and select assessments for neurological aspects of performance; 2) develop intervention techniques to remediate neurological problems that interfere with performance; 3) develop interventions to challenges to participation in daily activities; and 4) document aspects of the OT process. (30 hours lecture)

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 per enrollment period)
Permission of the instructor.

OCCT 6224 Strengthening Core Knowledge **2 Credits**

The student will have the opportunity to engage in a comprehensive review of content covered throughout the curriculum. Emphasis will be placed on in-depth analyses and synthesis across a broad spectrum of case studies. (30 lecture hours per enrollment period)
Prerequisites: 1st, 2nd, 3rd, 4th, and 5th semesters.

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 associations and credentialing/regulating bodies that govern occupational therapy; and 3) demonstrate sound approaches to resolving ethical dilemmas in occupational therapy practice. (30 lecture hours per enrollment period)
Prerequisites: 1st semester.

OCCT 6226 Neurological Lab **2 Credits**

The student will have the opportunity to: 1) use assessments to evaluate neurological aspects of performance; 2) develop and apply intervention techniques to remediate neurological problems that interfere with performance; 3) develop and apply intervention to compensate for challenges to performance; and 4) document aspects of the OT process. (60 lab hours per enrollment period) *Prerequisites: 1st and 2nd semesters.*

OCCT 6308 Practice with Children **3 Credits**

The student will have the opportunity to: 1) describe a variety of pediatric conditions and associated occupational challenges; 2) demonstrate understanding of theoretical principles that guide intervention with children; 3) identify, select, and administer assessments for evaluation of child performance; 4) develop and apply intervention techniques to remediate problems that interfere with child performance; 5) develop and apply intervention techniques to compensate for problems in child performance; 6) document aspects of the OT process; 7) demonstrate knowledge of typical child development; and 8) incorporate principles of family-centered practice. (30 lecture and 30 lab hours per enrollment period) *Prerequisites: 1st, 2nd, and 3rd semesters.*

OCCT 6310 Psychosocial Practice**3 Credits**

The student will have the opportunity to: 1) describe psychosocial challenges to occupational performance, including those commonly associated with medical conditions, disease processes, mental illness, and developmental disorders; 2) apply theoretical principles related to psychosocial interventions in occupational therapy; 3) identify, select, and administer assessments of psychosocial aspects of performance; 4) describe a variety of occupational therapy interventions to address psychosocial challenges underlying occupational performance; and 5) document aspects of the OT process. (15 lecture, 60 lab, and 15 seminar hours per enrollment period) *Prerequisites: 1st and 2nd semesters.*

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

The student will be given the opportunity to : 1) interpret criterion-referenced and norm-referenced standardized test scores based on an understanding of sampling, normative data, standard and criterion scores, reliability, and validity; 2) articulate the importance of research, scholarly activities, and the continued development of a body of knowledge relevant to the profession of occupational therapy; 3) identify elements of inquiry, approaches to research and related information that is included within the framework of a research design; 4) effectively locate, interpret, and evaluate information, including the quality of research evidence; 5) compare and contrast research designs that adopt quantitative methodology, including basic descriptive, correlational, and inferential quantitative statistics; and 6) examine underlying assumptions and implement strategies for conducting scientific inquiry based on analysis of qualitative data. (30 lecture and 45 lab hours per enrollment period) *Prerequisites: 1st semester.*

OCCT 6317 Specialized Practice**3 Credits**

The student will have the opportunity to: 1) describe conditions and interventions in specialized OT practice; 2) demonstrate theoretical principles related to these conditions and interventions; 3) evaluate using assessments related to these conditions; and 4) identify unique aspects of documentation for these conditions and interventions. (30 lecture and 30 lab hours per enrollment period) *Prerequisites: 1st, 2nd, and 3rd semesters.*

OCCT 6318 Learning and Cognition**3 Credits**

The student will have the opportunity to: 1) describe a variety of cognitive conditions and associated occupational challenges; 2) demonstrate theoretical principles related to cognitive aspects of performance; 3) identify, select, and administer assessments of cognitive aspects of performance; 4) develop and apply intervention techniques to remediate cognitive problems that interfere with performance; 5) develop and apply intervention techniques to compensate for challenges to participation in daily activity; 6) document aspects of the OT process; 7) discuss standards for how cognitive, skill-based, and affective learning outcomes are described and measured; and 8) acquire strategies for teaching both skills and knowledge to enhance participation in daily activities. (30 lecture and 45 lab hours per enrollment period) *Prerequisites: 1st and 2nd semesters.*

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

The student will have the opportunity to: 1) describe a variety of neurological conditions and associated occupational challenges and 2) demonstrate understanding of theoretical principles related to neurological aspects of performance. (30 lecture and 15 lab hours per enrollment period) *No prerequisites.*

OCCT 6330 OT Management

3 Credits

The student will have the opportunity to: 1) Identify the role of occupational therapy in different social, political, and cultural systems and their influence on the profession; 2) understand how national, state, and local health care systems influence occupational therapy practice; 3) develop an understanding of how major political and social issues affect the current and future practice trends of practice; 4) identify the fiscal elements of occupational therapy practice as it relates to planning, productivity, and the supervisory process; and 5) develop beginning competency in the use of marketing strategies for program development and promotion. (45 lecture hours per enrollment period) *Prerequisites: 1st, 2nd, and 3rd semesters.*

OCCT 6900 Level II Fieldwork

9 Credits

The student will have the opportunity to: 1) articulate the value of occupation as a method and desired outcome of occupational therapy; 2) select, administer, and interpret assessment methods to determine client's occupational performance strengths and challenges; 3) implement intervention plans that are client-centered and occupation-based; 4) demonstrate consistent work behaviors, including initiative, preparedness, dependability, work site maintenance, and responsibility for own learning to attain professional competence; and 5) communicate clearly and effectively with clients and other health care providers, through verbal interactions and documentation. (480 clinical hours per enrollment period) *Prerequisites: All required occupational therapy academic coursework, including Level I Fieldwork.*

Program Prerequisites

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

1. The applicant must have a baccalaureate degree from a regionally accredited college or university at the time of matriculation into the Master of Occupational Therapy Program.
2. 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 and have a minimum 3.0 GPA both in prerequisite courses and overall.

Prerequisite courses are as follows:

Abnormal Psychology*	3
Anatomy and Physiology (including lab)	8
Human Movement or Physics* (i.e., analysis of movement, anatomic kinesiology, biomechanics of human movement)	3
Lifespan human development	3
Neurological basis for human behavior* (i.e., behavioral neurosciences, biopsychology, brain & behavior, neuroanatomy, neurobiology, neurophysiology, neuroscience, physiological psychology)	3
Research design/methods, or statistics	3
Sociology (Only Introductory Sociology courses will be accepted)	3
Total Prerequisite Semester Credit Hours	26

* *Abnormal Psychology, Human Movement, and Neurological Basis courses are offered only at four-year institutions.*

3. 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.
4. The applicant must provide three professional references. At least one of these references must be from a supervisor (either an Occupational Therapist, Registered or a Certified Occupational Therapy Assistant) from an observation, volunteer, or work setting.
5. The applicant must submit a supporting statement (included in the application packet).
6. The applicant, if qualified, will be invited to come to the UTMB campus to engage in an individual and a group interview and compose an essay.

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/>.

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.

Department of Physical Therapy

Chair & Associate Professor

Carolyn J. Utsey, PT, Ph.D.

Professors

Christine P. Baker, PT, Ed.D.

Kurt A. Mossberg, PT, Ph.D.

Blake B. Rasmussen, Ph.D.

Professor Emeriti

Gertrude A. Freeman, PT, M.A.

Associate Professors

Jennifer B. Ellison, PT, Ph.D.

Caroline W. Jansen, PT, Ph.D.

Jennifer Rowland, PT, Ph.D.

Doug Paddon-Jones, Ph.D.

Associate Professor Emeritus

Miles Reich, PT, M.S.

Assistant Professors

Steven Fisher, PT, Ph.D.

Michael Furtado, PT, DPT, NCS

Rebecca Galloway, PT, GCS

Wendy Herbert, PT, Ph.D.

Janna McGaugh, PT, Sc.D., OCS, COMPT

Jill Seale, PT, Ph.D., NCS

Dana Wild, PT, Ph.D., PCSClinical Instructors

Karen Chapman, PT, DPT

Catherine Elton, PT, M.P.T.

Adjunct Assistant Professor

Roderick Henderson, PT, MPT, OCS, MA, CSCS

Eileen Tseng Stultz, PT, DPT, NCSClinical Assistant Professor

Brent Masel, M.D.

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 the 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 professions 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 that are used to apply the knowledge and skills learned in the first year are revisited during the second year with increasingly complex problems that 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 licensure examination, which is required in order to practice as a professional physical therapist.

The 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. Relocation and travel are at the student's expense.

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

ACADEMIC PERFORMANCE STANDARDS

The following standards apply to students matriculating in the DPT degree program beginning the fall semester 2008. These standards supersede the standards that are published in previous editions of the UTMB General Information Catalog and the SHP Bulletin.

The physical therapy curriculum consists of 9 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 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 beginning in Fall 2011:

Semester I (Fall I)

PHYT 6110 Surface Anatomy	1
PHYT 6221 Professional Issues in Health Care	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 6222 Lifespan Development	2
PHYT 6314 Movement Science I	3
PHYT 6313 Neuroscience for Health Professionals	3
PHYT 6343 Exercise & Manual Techniques in Physical Therapy.....	3
Semester Total	15

Semester III (Summer I)

PHYT 6112 Pharmacology for Rehabilitation Specialists.....	1
PHYT 6262 Diagnosis and Management of Integumentary Dysfunction	2

PHYT 6342 Functional Training Techniques in Physical Therapy.....	3
PHYT 6315 Movement Science II.....	3
PHYT 6463 Diagnosis & Management of Cardiovascular & Pulmonary Dysfunction....	4
Semester Total	13

Semester IV (Fall II)

PHYT 6117 Imaging of the Musculoskeletal and Neuromuscular Systems	1
PHYT 6223 Professional Issues in Physical Therapy	2
PHYT 6344 Physical Agents and Pain Management in Physical Therapy.....	3
PHYT 6481 Clinical Education I.....	4
Semester Total	10

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 6466 Diagnosis and Management of Musculoskeletal Extremity Dysfunction.....	4
PHYT 6467 Diagnosis and Management of Neuromuscular Dysfunction II.....	4
Semester Total	12

Semester VII (Fall III)

PHYT 6228 Differential Diagnosis in Physical Therapy	2
PHYT 6368 Diagnosis and Management of Developmental Dysfunction.....	3
PHYT 6482 Clinical Education II	4
Semester Total	9

Semester VIII (Spring III)

PHYT 6090 Special Topics Elective in Physical Therapy (elective).....	1-2
PHYT 6227 Evidence Based Seminar	2
PHYT 6683 Clinical Education III.....	6
Semester Total	8-11

Semester IX (Summer III – 12 week clinical rotation)

PHYT 6684 Clinical Education IV.....	6
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TOTAL **101-102**

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

The student 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**

The 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 6112 Pharmacology for Rehabilitation Specialists **1 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; and 3) integrate information about medication use by patients in the rehabilitation setting. (12 lecture and 6 laboratory hours per enrollment period) *Prerequisites: Successful completion of previous PT courses.*

PHYT 6117 Imaging of the Musculoskeletal and Neuromuscular Systems **1 Credit**

Students will be given the opportunity to learn about biomedical imaging in rehabilitation. The student will 1) become familiar with several of the more common imaging techniques and 2) develop an appreciation for the importance of biomedical imaging in the diagnosis and treatment of human disease. (15 lecture hours per enrollment period) *Prerequisites: Successful completion of previous PT courses.*

PHYT 6216 Exercise Physiology **2 Credits**

This course provides students with an advanced understanding of physiological adaptations of the human body in response to acute and chronic exercise. In particular, 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. (45 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 6221 Professional Issues in Health Care **2 Credits**

Students will be given the opportunity to: 1) acquire knowledge of the ethical principles and legal factors, which influence health care in general and physical therapy specifically; 2) apply these concepts to clinical practice; and 3) delineate the roles of health care providers in general and physical therapists specifically. (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 Physical Therapy **2 Credits**

Students will be given the opportunity to: 1) apply knowledge of ethical principles and legal concepts based on case scenarios from clinical education experiences; 2) analyze the consequences of decisions made in reference to the case scenarios. (30 seminar hours per enrollment period) *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**

The goal of this course is to introduce students and professionals to the concepts of evidence-based practice and outcome measurement in physical therapy. 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 6262 Diagnosis and Management of Integumentary Dysfunction **2 Credits**

The 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. (26 lecture, 23 laboratory, 7 seminar and 20 practicum 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 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 develop an advanced understanding of the human nervous system and the basis of neurological dysfunction. Students will 1) learn 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) learn to correlate the signs/symptoms of neural dysfunction with the appropriate central or peripheral neural defect. The course will include the central basis for autonomic dysfunction, various sensory deficits, disruption of motor control mechanisms, and affective disorders. (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: Movement Science I.*

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

The 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

The students will be given the opportunity to: 1) become competent in applying thermal, electrical, and mechanical modalities; 2) understand the physiological effects of modalities on the nervous, vascular and musculoskeletal systems; and 3) become competent with sterile techniques and basic bandaging skills. (15 lecture and 90 laboratory hours 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) 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 and 45 laboratory hours per enrollment period) *Prerequisites: Successful completion of previous PT courses.*

PHYT 6418 Human Anatomy for Rehabilitation Professionals 4 credits

Students will be given the opportunity to acquire advanced knowledge relating to anatomical systems involved in injuries or disorders treated by rehabilitation health professionals. The emphasis will be 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: Matriculation in Physical Therapy 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 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 have 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 Spinal Dysfunction 4 Credits

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 Extremity Dysfunction 4 Credits

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 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: 3.0 GPA (on a 4.0 scale).*

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: 3.0/4.0 GPA.*

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: 3.0 GPA (on a 4.0 scale).*

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: 3.0 GPA (on a 4.0 scale).*

Admission to the UTMB DPT 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 46 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 and statistics courses are not included in this calculation.)

- Submit the score of the Graduate Record Examination. GRE scores are valid for 5 years from date taken. UTMB GRE code is 6887.
- Submit 3 names with email addresses for online recommendations. At least one person must be a Physical Therapist who supervised your work or volunteer experience.
- Submit a Student Profile form via email. This form includes colleges, honors and awards, professional and community involvement, and work/volunteer experience.
- Submit a PT Work/Volunteer Experience Form that verifies at least 80 hours of volunteer or paid experience in a physical therapy setting. The form must be signed by a licensed physical therapist who supervised you at each facility.

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 Chair, Dr. Jennifer Ellison at jbelliso@utmb.edu or (409) 772-3068, with any questions you have regarding prerequisites.

Mathematics and Natural Sciences - 31 hours		
<i>Course</i>	<i>Hours</i>	<i>Notes</i>
Chemistry	8	Must be a course for science majors Must include lab
Physics	8	Must be a course for science majors Must include lab
General or introduction to Biology and/or Zoology	8	Must be a course for science majors, must include lab. Microbiology and Cell Biology courses with labs may be accepted for this requirement. Anatomy and Physiology I or the Anatomy part of a two semester Anatomy and Physiology course will not be accepted toward this requirement.
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	3	Any one of these math courses is acceptable.
Behavioral Sciences - 6 hours		
<i>Course</i>	<i>Hours</i>	<i>Notes</i>
General Psychology	3	Introduction to Psychology is also acceptable
Developmental Psychology	3	Lifespan Psychology or Child Psychology is acceptable as well. Lifespan Development offered through an Education Department may also be accepted.
Humanities and Liberal Arts - 9 hours		
<i>Course</i>	<i>Hours</i>	<i>Notes</i>
English	6	Must include composition
Statistics	3	Upper level psychology sociology or education based is preferred. Must include ANOVA.

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
- Speech

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

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 Physician Assistant Studies

Interim Chair and Associate Professor

Nina B. Partin, M.Ed., PA-C.
Medical Director and Professor
Courtney M. Townsend Jr., M.D.

Professor Emeritus

Richard R. Rahr, Ed.D., PA-C

Associate Professors

Salah Ayachi, Ph.D., PA
Perry L. Fulcher Sr., M.D.
Bruce R. Niebuhr, Ph.D.
Steven R. Shelton, M.B.A., PA-C.
Karen Stephenson, M.P.H., PA-C

Assistant Professors

Jennifer R. Eames, MPAS, PA-C
John F. Kasel, M.S., PA-C
Laura S. Lawrence, MPAS, PA-C
Camille T. Loftin, MPAS, PA-C
Holly A. West, MPAS, PA-C

Clinical Professor

Collier M. Cole, Ph.D.

Clinical Assistant Professors

Lee E. Emory, M.D.

Clinical Instructors

Bertha P. Mendieta, B.S., PA-C
Bonnie B. Ryan, B.S., PA-C

Instructors

Jason Borillo, MS, PA-C
Vickie S. Broderick, B.S., PA-C
Meghan Brooks, MPAS, PA-C
Stephen Keith Davis, B.S., PA-C
Peggy L. Haardt, B.S., PA-C

THE PROFESSION

The Physician Assistant (PA) profession is a rewarding career choice for individuals who are interested in medicine, sensitive to the needs of patients, and committed to the delivery of quality, cost-effective health care. The profession evolved in response to an appeal to extend the delivery of primary care medicine and, since its inception in 1965, has had a profound impact on health care.

Physician assistants are health care professionals licensed to practice medicine with physician supervision. As part of their comprehensive responsibilities, physician assistants conduct physical examinations, diagnose and treat illnesses, order and interpret tests, counsel on preventive health care, assist in surgery, and write prescriptions. Because of the close working relationship the physician assistant has with the physician, the physician assistant is educated in the medical model designed to complement physician training.

Role of the Physician Assistant

The Department of Physician Assistant Studies at The University of Texas Medical Branch, established in 1971, offers a two year professional curriculum in Physician Assistant Studies. The training program provides experiences in clinical practice, research, and professional services progressing from didactic to clinical courses and clinical rotations. Upon completion, students are awarded a master's degree, Master of Physician Assistant Studies (MPAS), and may sit for the national certifying examination to achieve licensure and certification. The UTMB Physician Assistant Program provides students with the basic and fundamental knowledge, skills, and attitudes for development into primary care physician assistants. The training program is designed to provide students with a flexible, broad-based curriculum offering didactic and clinical experiences in primary care medicine. The program's vast clinical affiliation network offers a wide variety of medical learning experiences ranging from assignments at academic health science centers to community-based rural health experiences. Last, it is the program's intent to instill the necessity to develop an inquisitive and self-structured approach to lifelong learning.

Essential Functions

This description defines the capabilities that are necessary for an individual to successfully complete the physician assistant curricula.

Observation and Sensation

The PA student must possess sufficient visual, auditory, and tactile sensation to receive appropriate information in the classroom, laboratory, and other educational and clinical settings. Sensation must be satisfactory to receive verbal and nonverbal communications from patients and others, and to perform inspection, auscultation and palpation techniques during the physical examination.

Communication

The PA student must be able to speak, hear, and observe patients, family members, and other clinicians. This includes expressive and receptive modes of verbal, nonverbal, and written communication. The student must have the ability to accurately assess receptive communication in order to make appropriate and timely responses. The student must be able to communicate attentively, effectively, and sensitively to others.

Motor Functions

Students must have sufficient strength and coordination to perform the activities required of a physician assistant. These include but are not limited to performing a physical examination utilizing diagnostic instruments and techniques in palpation and percussion. Students must have sufficient stamina to sit, stand, and move within classroom, laboratory, examination rooms, treatment rooms, and operating rooms for long periods of time. The student must have sufficient coordination to move about patient care environments, and sufficient dexterity to use common medical instruments.

Intellectual Capability

Clinical problem-solving and reasoning requires these intellectual abilities and encompass those to accurately measure, calculate, reason, analyze, integrate, learn, and retain information and make decisions in a timely manner. Students must be able to comprehend two and three-dimensional structures, and must be able to understand diagnostic testing and treatment regimens.

Behavioral and Social Proficiency

Students must possess the ability to establish and maintain appropriate professional relationships. This includes the ability to prioritize competing demands, to function in stressful circumstances, to exercise good clinical judgment, to act ethically, to be compassionate, empathetic, responsible, and tolerant toward patients and others.

TYPICAL DEMANDS AND PERFORMANCE REQUIREMENTS

The following outlines some examples of the demands and performance requirements required of the UTMB PA student. (Examples included are not limited to training opportunities offered at the UTMB program.)

Typical Mental Demands

The UTMB PA student must possess the ability to:

- Process, retain, comprehend, integrate, analyze, synthesize, and apply a large volume of data related to the art and science of medicine, including legal, ethical, and moral concepts
- Be present during long hours in the following settings: classrooms, laboratories, clinicals, and self-directed study situations and environments
- Respond appropriately and in a timely manner to constructive faculty feedback
- Effectively communicate through written and verbal communication skills
- Participate in educational activities that include tests, examinations, demonstrations, simulations, presentations, written communication skills, frequent and exacting evaluations
- Demonstrate the ability to gather patient data and report, perform the physical examination, conduct patient assessment and evaluation, formulate a treatment plan, and perform patient education

Typical Physical Demands

The UTMB PA student must possess:

- Full range of body motion including assisting patient movement, manual and finger dexterity, and eye-hand coordination
- Normal visual and hearing acuity
- Physical capacity to stand and walk for extended hospital and clinic visits, and during frequent and prolonged patient and professional interactions
- Physical capacity to sit for long periods during classroom and laboratory experiences
- Capability to work in physically and mentally stressful situations with long and irregular hours and with exposures to communicable diseases and body fluids

Typical Working Conditions

The UTMB PA student must be able to:

- Work in clinical and classroom environments with exposure to communicable diseases, toxic substances, ionizing radiation, medicinal preparations, hostile individuals, and other such conditions common to the medical and surgical environments
- Interact with a diverse patient population of all ages with a range of acute and chronic medical and surgical conditions

Student Performance Requirements

The UTMB PA student will be required to perform in the following situations:

- Medical, surgical, pediatric, obstetric/gynecologic, and other primary care medicine settings (inpatient and out-patient) at both campus and off-campus locations
- Didactic and clinical education and training
- Invasive and non-invasive procedures
- Pre-, intra-, and post-operative activities
- Emergency care

The UTMB PA Student will be required to:

- Demonstrate a professional ethical demeanor and understanding of medical ethics and medical-legal concepts
- Display an ability to perform for long hours (physical and mental stamina)
- Complete demanding didactic and clinical evaluations, examinations, etc.
- Perform at the level determined and required by the faculty
- Participate in community and/or professional service activities
- Complete other responsibilities and tasks as assigned or required

TASKS, FUNCTIONS, COMPETENCIES, AND TECHNICAL PROCEDURES FOR THE UTMB PHYSICIAN ASSISTANT TRAINING PROGRAM

This is a summary of major tasks, skills, competencies, and technical procedures offered during the UTMB physician assistant training program. This listing includes major concepts and techniques but is not limited to all experiences and opportunities presented during matriculation at the UTMB Physician Assistant Program.

Subjective Data Gathering and Utilization

The UTMB physician assistant graduate should be able to:

- Take a complete medical history
- Perform a comprehensive physical examination
- Order and interpret a complete basic laboratory work (CBC, urinalysis, gram stain, etc.)
- Obtain a history, gather patient data, and perform a physical examination in a reasonable period of time
- Identify data from the history and physical examination which is relevant to the patient's illness
- Synthesize all abnormal data collected in the data base into a separate problem or a collection of problems
- Develop a list of problems and properly separate them into active and inactive groups in a reasonable period of time
- Refine problems to the maximum extent possible with consistent accuracy and state clearly the overall goal for each problem
- Develop accurate therapeutic plans for each problem that are relevant to the resolution of the patient's problems
- Write thorough progress notes that include subjective and objective information as well as an assessment and plan
- Write and record accurate progress notes within a reasonable period of time
- Possess a general knowledge of pathophysiology of common diseases and disposition of patients

Objective Data Collection

The UTMB physician assistant graduate should be able to perform, order, and interpret:

- Routine and special radiographs (chest, abdomen, skull, skeletal, and barium) studies
- Chemistry studies and fluid and electrolyte balance
- Hematology studies
- Culture results
- Electrocardiographic interpretations
- Abnormal laboratory/diagnostic data

Counseling and Patient Education

The UTMB physician assistant graduate should be able to:

- Provide counseling and patient education for problems and procedures, methods of treatment in a manner consistent with the understanding of the patient population and medical practice
- Assist individuals and families in identifying strengths to resolve their problems
- Inform individuals and families about available community resources
- Counsel parents and families on child rearing
- Counsel individuals and families about addictions and methods to cope with these addictions
- Provide sex education
- Provide proper information and assistance to terminally ill patients
- Counsel and assist patients who are suffering from stress, depressions or losses
- Provide information about common medical problems and explain laboratory, x-ray, and surgical procedures
- Provide information on preventative measures for communicable diseases
- Provide information on healthy lifestyles and intervention/modification for at-risk behaviors.

Technical Skills

The physician assistant graduate should be able to perform the following technical skills:

- Venipuncture
- Arterial punctures
- IV catheterization
- Urinary catheterization
- Nasogastric intubation
- Bronchial suctioning
- Aseptic techniques
- Wound care and closure of lacerations
- Immunizations (children and adult)
- IV medication administration
- Collection of various cultures (blood, sputum, urine) and performance of routine laboratory procedures (CBC, differential, urinalysis, gram stain)
- Vision screening
- Splint and cast applications
- KOH prep
- Explanation of procedures to patient, parent, and family
- Instruction about prescribed medication and other therapies
- Cardiopulmonary resuscitation (CPR)
- Advanced cardiac life support (ACLS)
- Emergency response to adverse reactions following administration of parenteral or any medication
- Mini-mental status examination
- Administration of local anesthesia
- Control of external hemorrhage
- Removal of superficial foreign bodies of the skin, ear and eye
- Feeding tube insertion
- Venous cut down paracentesis (optional)

- Thoracentesis (optional)
- Glucose tolerance test (optional)
- Glucometer readings (optional)
- Proctosigmoidoscopy (optional)
- Tissue biopsy (optional)

Other Skills: Assist in surgery

- Identify and use appropriate surgical instruments
- Demonstrate appropriate operating room conduct
- Suture
- Dress wounds

Other Skills: Management of emergency situations

- Cardiac arrest
- Respiratory distress
- Burns
- Hemorrhage and hemogatic shock
- Trauma
- Anaphylaxis
- Ingestion of toxic substances
- Myocardial infarction
- Acute abdomen
- Septic joint
- Urinary tract infection
- Wound infection

Other Skills: Critical evaluation

- Locate and retrieve medical literature
- Discuss practice implications
- Apply ethical decision-making skills
- Apply the Physician Assistant Ethical Code of Ethics
- Read medical literature on an on-going basis
- Discuss current and controversial medical knowledge with colleagues and physicians
- Critically evaluate new medical knowledge

Mission

Prepare and graduate an academically and clinically exceptional student body.

Program Goals and Objectives:

1. Maintain full accreditation status and preserve the historical standard of excellence of the program.
 - Provide students with fundamental knowledge, skills, and attitudes necessary to develop into mature, qualified, competent practitioners.
2. Maintain and develop quality clinical rotation sites to promote exposure to a variety of patient care settings.
 - Promote primary care opportunities including rural and underserved populations in family medicine, women's health, pediatrics, and general internal medicine.
 - Promote specialty care opportunities in surgery, emergency medicine, internal medicine specialties, behavioral and mental health care.

3. Recruit, admit, and retain high caliber students.
 - Recruit high caliber students.
 - Admit high caliber students.
 - Retain high caliber students.
4. Attract and retain a talented faculty and staff, and capitalize on their strengths.
 - Attract a talented faculty and staff.
 - Retain a talented faculty and staff.
 - Capitalize on the faculty and staff members' strengths.

THE PROFESSIONAL CURRICULUM

Master of Physician Assistant Studies

During enrollment, emphasis is placed on the professional role of the physician assistant student as well as academic success in the program, and the student is expected to demonstrate principles of integrity and honesty. The curriculum begins annually in the summer semester, and is divided into approximately 12 months of didactic learning followed by 14 months of clinical experiences. Before entering the clinical year, the student must successfully complete all didactic requirements. The professional curriculum includes course work in basic medical, behavioral and social sciences, supervised clinical rotations, health policy and professional practice issues, and independent investigative studies and research. The program's training emphasis is to educate and prepare qualified primary care physician assistants from diverse backgrounds to practice and improve the delivery of primary care medicine predominantly in rural and underserved communities. During the clinical year, a variety of experiences are offered at university clinics and facilities, as well as at off-campus sites through rotations in primary care medicine, internal medicine, women and children health, surgery, and emergency medicine. Students must arrange for transportation and living expenses away from campus. On occasion when it may be necessary for the program to change assignments, sufficient notice will be given and comparable activities assigned. Upon completion of all academic, professional, and clinical training requirements, the student is conferred the designated degree of Master of Physician Assistant Studies.

Masters of Science in Health Professions with Specialty in Physician Assistant Studies

The Master of Science in Health Professions – Physician Assistant is a distance learning program designed to advance education and training for bachelor level physician assistants. The distance learning program is predominantly a web-based curriculum, and the student selects either the clinical practice or general 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.

NATIONAL CERTIFICATION EXAMINATION

Upon completion of all curriculum requirements and the award of a Master of Physician Assistant Studies degree, graduates of the program are eligible to sit for the national certification examination for physician assistants administered by the National Commission on Certification of Physician Assistants, Inc.

All states regulate physician assistant 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:

Texas State Board of Medical Examiners (TSBME)
www.tmb.state.tx.us

PAS Professional Course of Study (Begins with the Class of 2012-2014)

Didactic (MPAS-I) Curriculum

Summer Semester

PHAS 5111 Medical Spanish	1
PHAS 5211 Introduction to Health Professions	2
PHAS 5212 Health Promotion and Prevention	2
PHAS 5213 Behavioral Medicine	2
TOTAL HOURS	7

Fall Semester

CLLS 5227 Clinical Laboratory Methods	2
PHAS 5308 Patient Assessment I	3
PHAS 5311 Pathophysiologic Processes I	3
PHAS 5407 Clinical Medicine I	4
PHAS 5503 Human Anatomy	5
TOTAL HOURS	17

Spring Semester

PHAS 5202 Diagnostic Methods	2
PHAS 5205 Clinical Medicine III	2
PHAS 5312 Pathophysiologic Processes II	3
PHAS 5402 Clinical Pharmacology	4
PHAS 5408 Clinical Medicine II	4
PHAS 5409 Patient Assessment II	4
TOTAL HOURS	19

Summer Semester

PHAS 5214 Community Medicine	2
PHAS 5215 Applied Research	2
PHAS 5313 Clinical Skills	3
TOTAL HOURS	7

Didactic Year	TOTAL HOURS	50
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Clinical (MPAS-II or “D-Term”) Curriculum

PHAS 6407 Medicine I	4
PHAS 6408 Medicine II	4
PHAS 6409 Medicine III	4
PHAS 6410 Primary Care I	4
PHAS 6411 Primary Care II	4
PHAS 6412 Primary Care III	4
PHAS 6420 Women and Children I	4
PHAS 6421 Women and Children II	4
PHAS 6422 Professional Development	4
PHAS 6425 Surgery/Emergency Medicine I	4
PHAS 6426 Surgery/Emergency Medicine II	4
PHAS 6427 Surgery/Emergency Medicine III	4
TOTAL HOURS	48

Summer Semester

PHAS 6211 Investigative Studies.....	2
PHAS 6414 Professional Practice Issues	4
TOTAL HOURS	6

CURRICULUM TOTAL

104

PAS Professional Course of Study (Begins with the Class of 2013-2015)

Didactic (MPAS-I) Curriculum

Summer Semester

PHAS 5113 Cross Cultural Health.....	1
PHAS 5211 Introduction to Health Professions	2
PHAS 5212 Health Promotion and Prevention	2
PHAS 5213 Behavioral Medicine.....	2
TOTAL HOURS	7

Fall Semester

CLLS 5227 Clinical Laboratory Methods	2
PHAS 5308 Patient Assessment I.....	3
PHAS 5311 Pathophysiologic Processes I.....	3
PHAS 5407 Clinical Medicine I	4
PHAS 5503 Human Anatomy.....	5
TOTAL HOURS	17

Spring Semester

PHAS 5202 Diagnostic Methods.....	2
PHAS 5205 Clinical Medicine III.....	2
PHAS 5312 Pathophysiologic Processes II	3
PHAS 5402 Clinical Pharmacology.....	4
PHAS 5408 Clinical Medicine II.....	4
PHAS 5409 Patient Assessment II.....	4
TOTAL HOURS	19

Summer Semester

PHAS 5214 Community Medicine	2
PHAS 5215 Applied Research.....	2
PHAS 5313 Clinical Skills	3
TOTAL HOURS	7

Didactic Year

TOTAL HOURS

50

Clinical (MPAS-II or "D-Term") Curriculum

PHAS 6407 Medicine I	4
PHAS 6408 Medicine II	4
PHAS 6409 Medicine III	4
PHAS 6410 Primary Care I.....	4
PHAS 6411 Primary Care II	4
PHAS 6412 Primary Care III.....	4
PHAS 6420 Women and Children I	4

PHAS 6421 Women and Children II.....	4
PHAS 6422 Professional Development.....	4
PHAS 6425 Surgery/Emergency Medicine I.....	4
PHAS 6426 Surgery/Emergency Medicine II.....	4
PHAS 6427 Surgery/Emergency Medicine III.....	4
TOTAL HOURS	48

Summer Semester

PHAS 6211 Investigative Studies.....	2
PHAS 6414 Professional Practice Issues.....	4
TOTAL HOURS	6

CURRICULUM TOTAL 104

HPPA (Master of Science in Health Professions – Physician Assistant – Clinical Practice Track)

Professional Course of Study

Semester I

MSHP 5302Intro to Scientific Writing.....	3
MSHP 5304Thesis Project I.....	3
MSHP 5504Advanced Practice Practicum IV – Clinical Practice.....	5
TOTAL HOURS	11

Semester II

MSHP 5301Medical Ethics.....	3
MSHP 5305Thesis Project II.....	3
MSHP 5504Advanced Practice Practicum IV – Clinical Practice.....	5
TOTAL HOURS	11

Semester III

MSHP 5303Health Care Policy for Clinicians.....	3
MSHP 5501* Advanced Practice Practicum I - Education.....	5
MSHP 5502* Advanced Practice Practicum II - Management.....	5
MSHP 5503* Advanced Practice Practicum III - Research.....	5

**select two of these courses for total 10 credit hours*

TOTAL HOURS 13

CURRICULUM TOTAL 35

HPPA (Master of Science in Health Professions – Physician Assistant – General Track)

Professional Course of Study

Semester I

MSHP 5302Intro to Scientific Writing.....	3
MSHP 5304Thesis Project I.....	3
MSHP 5504Advanced Practice Practicum IV – Clinical Practice.....	5
TOTAL HOURS	11

Semester II

MSHP 5301 Medical Ethics	3
MSHP 5305 Thesis Project II.....	3
MSHP 5503 Advanced Practice Practicum III – Research.....	5
TOTAL HOURS	11

Semester III

MSHP 5303 Health Care Policy	3
MSHP 5501 Advanced Practice Practicum I - Education	5
MSHP 5502 Advanced Practice Practicum II - Management.....	5
TOTAL HOURS	13

CURRICULUM TOTAL

35

Academic Performance Standards

These courses are open to Physician Assistant Studies majors only or with consent of the department chair. Students are expected to maintain a minimum GPA of 3.0 during each semester/term to qualify for the M.P.A.S. degree. Courses may not be taken more than twice, and the timing of the repeated course or remedial instruction will be scheduled at the discretion of departmental faculty. A cumulative GPA of 3.0 or higher is required for graduation from the MPAS program. Please see the “Academic Progress” section of this bulletin for additional information regarding academic performance standards, scholastic probation, and dismissal policies.

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.)

PHAS 5090 Topics in PA Studies

2–4 Credits

The student will be given the opportunity to demonstrate the ability to: 1) develop knowledge and skills in techniques and processes of patient management; or 2) develop advanced knowledge in the management of patients with special conditions. (Hours are arranged) Course may be repeated for credit when topic/content varies. *Prerequisites:* matriculation PAS program.

PHAS 5099 Global Health

1 Credit

The student will be given the opportunity to: 1) examine the critical global health issues; 2) describe the historical and cultural factors that influence health and development; 3) demonstrate awareness for the roles and responsibilities in health care teams in different global health settings; 4) describe basic principles of public and population health, social determinants of health, and inequalities in health; and 5) explore the influence of major international and global organizations on the theory, policy, and practice of global health (15 semester hours).

PHAS 5111 Medical Spanish

1 Credit

The student will be given the opportunity to demonstrate the ability to: 1) use basic Spanish grammar and idiomatic expressions; 2) apply a basic understanding of health related Spanish vocabulary and expressions; 3) appreciate the need to communicate with Spanish-dominant patients in their own language; and 4) recognize the cultural differences and attitudes that affect health care practices. (5 lecture and 20 laboratory hours per enrollment period). *Prerequisites:* matriculation in PAS Program or consent of instructor.

PHAS 5113 Cross Cultural Health**1 Credit**

The student will be given the opportunity to: 1) understand the definitions of culture, race and ethnicity and their use in medical literature; 2) recognize health disparities and factors that contribute to their existence by race/ethnicity, gender, socioeconomic status, sexual orientation, and disability; 3) apply an understanding of the socio-cultural factors that may affect the patient encounter; 4) understand his/her personal cultural values and biases; and 5) understand the operation and effect of stereotyping on communication, decision-making, compliance and health outcomes. (5 lecture and 20 laboratory hours per enrollment period) *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5202 Diagnostic Methods**2 Credits**

The student will be given the opportunity to demonstrate the ability 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 including chest, abdominopelvic, and skeletal X-rays; and 8) recognize the importance of an appropriate and timely referral. (30 lecture and 15 laboratory hours per enrollment period) *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5205 Clinical Medicine III**2 Credits**

This 4 week course is designed specifically to prepare the student for supervised clinical practice. The student will be given the opportunity to: 1) explore several course themes and content areas through a series of clinical cases involving complex problems that span multiple organ systems; 2) expand and apply knowledge and skills in medical ethics, biostatistics, and clinical medicine, and 3) advance interdisciplinary studies between medical and physician assistant students. (15 conference and 45 hours discussion/problem-solving laboratory per enrollment period) *Prerequisites: PHAS 5203 (or 5407) Clinical Medicine I and PHAS 5310 Physical Diagnosis (or PHAS 5308 Patient Assessment I).*

PHAS 5211 Introduction to Health Professions**2 Credits**

The student will be given the opportunity to: 1) examine the role of the physician assistant in health care delivery and the scope of PA practice; 2) interpret health policy and law; 3) review the physician assistant profession and its history; 4) discuss the ethical dimensions in health care; and 5) recognize the PA role in interprofessional health care. The course will also emphasize the PA's role in health care delivery as a member of an interdisciplinary team. (30 lecture hours per enrollment period). *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5212 Health Promotion and Prevention**2 Credits**

The student will be given the opportunity to: 1) examine issues concerning the practice of preventive medicine; 2) identify resources that provide preventive and community health services; 3) identify health promotion and disease prevention factors that can influence a PA to provide better patient outcomes; 4) discuss the importance of screening practices and identification of risk factors for disease prevention; and 5) discuss the role of motivational interviewing. (30 lecture hours per enrollment period). *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5213 Behavioral Medicine**2 Credits**

The student will be given the opportunity to: 1) identify normal physical, social, and psychological processes and distinguish these from processes due to illness and injury; 2) clinically assess a patient's state of mental health and development; 3) explain the classification of common mental illnesses set forth in the Diagnostic and Statistical Manual of Mental Disorders; 4) recognize the importance of an appropriate and timely referral; 5) recognize the importance of other health care professionals in the management of patients with mental illness; and 6) accept the importance of family and community dynamics in the management of patients with mental illness. (30 lecture hours per enrollment period). *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5214 Community Medicine**2 Credits**

The student will be given the opportunity to: 1) apply principles of preventive medicine and epidemiology in the primary care setting; 2) identify population specific issues regarding geriatric and pediatric patients; 3) recognize issues regarding underserved and indigent medical care; 4) identify resources in the community, state, and nation regarding financial assistance, patient education, and provider access; 5) determine the significance of cultural and ethnic factors in patient management; and 6) examine medical financing as it relates to third party billing. (30 lecture hours per enrollment period). *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5215 Applied Research**2 Credits**

The student will be given the opportunity to: 1) interpret and evaluate scientific studies in the health professions; 2) develop and construct a research proposal; 3) obtain the faculty, school, and institutional approvals necessary to conduct research; and 4) perform a literature review process. (30 lecture hours per enrollment period). *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5308 Patient Assessment I**3 Credits**

The student will be given the opportunity to: 1) communicate skillfully with patients using appropriate interviewing and patient education techniques; 2) administer a thorough medical history; 3) demonstrate proper use of instruments and techniques used in performing the physical examination; 4) correlate and apply information acquired in anatomy, physiology, and other courses with application and importance in the performance for physical examination and medical interviewing; 5) recognize abnormal physical examination and interview findings; 6) correlate essentials of historical data with physical examination findings; and 7) identify and develop patient education methods, techniques, and locate available resources for patients (30 lecture hours and 60 laboratory hours per enrollment period). *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5311 Pathophysiologic Processes I**3 Credits**

The student will be given the opportunity to: 1) examine the mechanisms of human disease and injury using body system approach; 2) integrate anatomic and physiologic principles with emphasis on epidemiology, etiology, pathophysiology, clinical manifestations, diagnosis, treatment, prevention, and prognosis; 3) evaluate clinical problems using basic problem-solving skills; 4) apply learned techniques and principles to develop diagnostic skills, and 5) acquire advanced knowledge relating to physiologic systems involved in disorders treated by primary care professionals. (45 lecture hours per enrollment period). *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5312 Pathophysiologic Processes II

3 Credits

Continuation of Pathophysiologic Processes I. The student will be given the opportunity to: 1) analyze the mechanisms of human disease and injury using a body system approach; 2) integrate anatomic and physiologic principles and develop an understanding of selected diseases with emphasis on epidemiology, etiology, pathophysiology, clinical manifestations, diagnosis, treatment, prevention, and prognosis; 3) use basic problem-solving skills to evaluate clinical problems; 4) apply learned techniques and principles to develop diagnostic skills; and 5) examine advanced knowledge relating to physiological systems involved in disorders treated by primary care professionals. (45 lecture hours per enrollment period).

Prerequisite: PHAS 5311 Pathophysiologic Processes I.

PHAS 5313 Clinical Skills

3 Credits

This course is designed to prepare the student for supervised clinical practice by introducing procedures commonly performed in the clinical setting. The student will be given the opportunity to: 1) identify the indications for performing specific procedures; 2) perform the appropriate procedures; 3) counsel the patient regarding both procedures and management; 4) interpret data acquired from procedures in the primary care and relevant subspecialty areas; and 5) successfully perform resuscitative procedures under simulated clinical conditions (90 laboratory hours per enrollment period). *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5402 Clinical Pharmacology

4 Credits

The student will be given the opportunity to demonstrate the ability to: 1) identify the classes of drugs used to treat diseases commonly encountered in primary care setting; 2) identify classes of drugs commonly used to manage emergent conditions; 3) recognize the prototype and commonly used drugs in each class; 4) identify the basic pharmacodynamic properties of each class of drugs and the mechanism of action and important consequences of using each class of drugs; 5) recognize the signs and symptoms of common adverse effects and of possible toxic or life-threatening effects; 6) identify precautions or contraindications to the use of a drug; 7) identify significant drug-drug interactions; 8) recognize the importance of patient education in determining compliance, avoidance of potential problems, and success of therapy; 9) apply previously acquired statistical and critical thinking skills to evaluate literature data; 10) use resource materials for determining proper usage of chemotherapeutic agents; and 11) understand the role of the physician assistant in writing prescriptions. (15 lecture and 30 conference, discussion or seminar hours per enrollment period) *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5407 Clinical Medicine I

4 Credits

The course is designed specifically to prepare the student for supervised clinical practice. The student will be given the opportunity to: 1) recognize and interpret clinical signs and symptoms of disease; 2) differentiate between abnormal and normal physiologic processes; 3) interpret results obtained by analysis of body tissues and fluids; 4) interpret basic diagnostic procedures and radiographic procedures; 5) utilize clinical data to develop non-pharmacologic management plans; 6) utilize clinical data to develop basic pharmacologic management plans; and 7) apply principles of evidence-based medicine. (60 lecture hours per enrollment period). *Prerequisites: matriculation in PAS Program or consent of instructor.*

PHAS 5408 Clinical Medicine II **4 Credits**

Continuation of Clinical Medicine I. This course is designed specifically to prepare the student for supervised clinical practice. The student will be given the opportunity to demonstrate the ability to: 1) recognize and understand clinical signs and symptoms of diseases; 2) interpret results obtained by analysis of body tissues and fluids; 3) interpret basic radiographic procedures; and 4) utilize clinical data in the management of medical problems. (45 lecture hours per enrollment period). *Prerequisites: PHAS 5407, Clinical Medicine I and PHAS 5308 Patient Assessment I.*

PHAS 5409 Patient Assessment II **4 Credits**

The student will be given the opportunity to demonstrate the ability to: 1) elicit historical information from selected patients; 2) perform the appropriate physical examination of the patient; 3) develop an appropriate write-up for the patient that documents history and physical findings; 4) construct an assessment and management plan for the patient incorporating the history and physical findings; 5) utilize appropriate medical terminology, abbreviation, and nomenclature for documentation; 6) gain appreciation for the significance of the data gathered in formulating management plans for the care of the patient; 7) apply principles of evidence-based medicine; 8) present the information gathered clearly and concisely, either verbally and/or in writing to the supervising faculty member (s); and 9) identify patient safety issues and the role of risk management in patient care. (30 lecture hours and 60 laboratory hours per enrollment period). *Prerequisite: PHAS 5308 Patient Assessment I.*

PHAS 5503 Human Anatomy **5 credits**

Students will be given the opportunity to acquire advanced knowledge of the anatomical structures of the human body, including but not limited to the head and neck, thorax, abdomen, pelvis, and extremities, and developing knowledge essential to be able to: 1) understand how anatomy relates to function; 2) identify anatomic structures in a surgical setting; 3) distinguish normal from abnormal structures; 4) demonstrate respect for the human body; 5) appreciate the complexity of the human body; and 6) interpret research related to anatomy. Laboratory includes study of a prosected cadaver. (46 lecture and 45 laboratory hours per enrollment period) *Prerequisites: Matriculation in PAS program.*

PHAS 6211 Investigative Studies **2 Credits**

The student will be given the opportunity to: 1) critically read, interpret, and analyze the results of a research study; 2) prepare a final written manuscript; and 3) search publishing opportunities for his/her manuscripts. (30 lecture hours per enrollment period). *Prerequisites: matriculation in MPAS-II curriculum.*

PHAS 6407 Medicine I **4 Credits**

The student will be given the opportunity to demonstrate the ability to: 1) elicit, organize, and record data both for a comprehensive and problem-oriented patient evaluation; 2) order or recommend appropriate laboratory, radiologic, and other diagnostic studies; 3) interpret physical exam and diagnostic data; 4) formulate management plans for the patient problems; 5) follow patients' progress by reviewing their records and periodically reevaluating their conditions; 6) assist the physician in appropriate procedures; 7) counsel and educate the patient about health maintenance issues; 8) understand and institute necessary emergency medical care, when indicated; 9) apply previously acquired knowledge in the management of patients; 10) apply principles of evidence-based medicine; 11) apply data gathering

techniques and participate in designing and/or collecting data in clinical trials; and 12) make written and oral presentations of selected patient conditions. (4-week rotation) *Prerequisites: matriculation in MPAS-II curriculum.*

PHAS 6408 Medicine II

4 Credits

The student will be given the opportunity to demonstrate the ability to: 1) elicit, organize, and record data both for a comprehensive and problem-oriented patient evaluation; 2) order or recommend appropriate laboratory, radiologic, and other diagnostic studies; 3) interpret physical exam and diagnostic data; 4) formulate management plans for the patient problems; 5) follow patients' progress by reviewing their records and periodically reevaluating their conditions; 6) assist the physician in appropriate procedures; 7) counsel and educate the patient about health maintenance issues; 8) understand and institute necessary emergency medical care, when indicated; 9) apply previously acquired knowledge in the management of patients; 10) apply principles of evidence-based medicine; 11) apply data-gathering techniques and participate in designing and/or collecting data in clinical trials; and 12) make written and oral presentations of selected patient conditions. (4-week rotation) *Prerequisites: matriculation in MPAS-II curriculum.*

PHAS 6409 Medicine III

4 Credits

The student will be given the opportunity to: 1) organize and record data both for a comprehensive and problem-oriented patient evaluation; 2) order or recommend appropriate laboratory, radiologic, and other diagnostic studies; 3) interpret physical exam and diagnostic data; 4) formulate management plans for the patient problems; 5) review patient records and periodically reevaluate their condition in order to follow their progress; 6) assist the physician in appropriate procedures; 7) counsel and educate the patient about health maintenance issues; 8) evaluate and institute necessary emergency medical care, when indicated; 9) apply previously acquired knowledge in the management of patients; 10) apply principles of evidence-based medicine; and 11) make written and oral presentations of selected patient conditions. (4-week rotation) *Prerequisites: matriculation in MPAS-II curriculum.*

PHAS 6410 Primary Care I

4 Credits

This course is designed to emphasize student training in primary care disciplines. The student will be given the opportunity to: 1) examine how to manage complex problems in the primary care area; 2) discuss knowledge acquired during this and other clinical rotations and how it will benefit the primary care setting; and 3) discuss how this knowledge benefits the physician and patient in the primary care setting. (4-week rotation) *Prerequisites: matriculation in MPAS-II curriculum.*

PHAS 6411 Primary Care II

4 Credits

This course is designed to emphasize student training in primary care disciplines. The student will be given the opportunity to: 1) examine how to manage complex problems in the primary care area; 2) discuss knowledge acquired during this and other clinical rotations and how it will benefit the primary care setting; and 3) discuss how this knowledge benefits the physician and patient in the primary care setting. (4-week rotation) *Prerequisites: matriculation in MPAS-II curriculum*

PHAS 6412 Primary Care III

4 Credits

This course is designed to emphasize student training in primary care disciplines. The student will be given the opportunity to: 1) examine how to manage complex problems in the primary care area; 2) discuss knowledge acquired during this and other clinical rotations

and how it will benefit the primary care setting; and 3) discuss how this knowledge benefits the physician and patient in the primary care setting. (4-week rotation) *Prerequisites: matriculation in MPAS-II curriculum*

PHAS 6414 Professional Practice Issues 4 Credits

The student will be given the opportunity to demonstrate the ability to: 1) exhibit their clinical skills and review didactic knowledge learning throughout the curriculum; 2) prepare for successful completion of the national certification examination through lectures, assignments, and self-learning; 3) recognize the importance of national certification, state licensure maintenance, and continuing medical education requirements; and 4) prepare for employment. (60 lecture hours per enrollment period) *Prerequisites: matriculation in MPAS-II curriculum*

PHAS 6420 Women and Children I 4 Credits

The student will be given the opportunity to: 1) examine how to manage conditions affecting women and children including opportunities in obstetrics, gynecology, and pediatrics; 2) perform histories, physical examinations, and patient counseling/education, where applicable; 3) assist the provider in appropriate procedures; 4) counsel and educate the patient and caregivers about health maintenance issues; 5) evaluate and institute necessary emergency medical care, when indicated; 6) apply previously acquired knowledge in the management of patients; 7) apply principles of evidence-based medicine; and 8) make written and oral presentations of selected patient conditions. (4-week rotation). *Prerequisites: matriculation in MPAS-II curriculum.*

PHAS 6421 Women and Children II 4 Credits

The student will be given the opportunity to: 1) examine how to manage conditions affecting women and children including opportunities in obstetrics, gynecology, and pediatrics; 2) perform histories, physical examinations, and patient counseling/education, where applicable; 3) assist the provider in appropriate procedures; 4) counsel and educate the patient and caregivers about health maintenance issues; 5) evaluate and institute necessary emergency medical care, when indicated; 6) apply previously acquired knowledge in the management of patients; 7) apply principles of evidence-based medicine; and 8) make written and oral presentations of selected patient conditions. (4-week rotation). *Prerequisites: matriculation in MPAS-II curriculum.*

PHAS 6422 Professional Development 4 Credits

This course is designed to prepare PA students for their futures as health care providers. The student will be given the opportunity to: 1) examine the importance of communication and interprofessional teamwork in the clinical and administrative environment; 2) identify certification and licensure requirements for graduation and beyond; 3) identify the PA role in the promotion and dissemination of research; 4) develop skills to foster the concept of lifelong learning; and 5) develop study materials for the national board examination. (4-week rotation). *Prerequisites: matriculation in MPAS-II curriculum.*

PHAS 6425 Surgery/Emergency Medicine I 4 Credits

The student will be given the opportunity to: 1) prepare and present patient records and a problem list in an organized fashion appropriate for the emergency and surgical services; 2) understand the indications, contraindications, possible complications, and limitations in the management of emergent and surgical conditions; 3) understand the indications and limitation of various diagnostic procedures; 4) assist effectively with necessary procedures

in the emergency setting and pre- and post-operative periods; 5) assist in all particulars delegated by the supervising practitioner; 6) apply previously acquired problem-solving skills in the management of patients; 7) apply principles of evidence-based medicine; and 8) make written and oral presentations on selected patient conditions. (4-week rotation) *Prerequisites: matriculation in MPAS-II curriculum.*

PHAS 6426 Surgery/Emergency Medicine II **4 Credits**

The student will be given the opportunity to: 1) prepare and present patient records and a problem list in an organized fashion appropriate for the emergency and surgical services; 2) understand the indications, contraindications, possible complications, and limitations in the management of emergent and surgical conditions; 3) understand the indications and limitation of various diagnostic procedures; 4) assist effectively with necessary procedures in the emergency setting and pre- and post-operative periods; 5) assist in all particulars delegated by the supervising practitioner; 6) apply previously acquired problem-solving skills in the management of patients; 7) apply principles of evidence-based medicine; and 8) make written and oral presentations on selected patient conditions. (4-week rotation) *Prerequisites: matriculation in MPAS-II curriculum.*

PHAS 6427 Surgery/Emergency Medicine III **4 Credits**

The student will be given the opportunity to: 1) prepare and present patient records and a problem list in an organized fashion appropriate for the emergency and surgical services; 2) understand the indications, contraindications, possible complications, and limitations in the management of emergent and surgical conditions; 3) understand the indications and limitation of various diagnostic procedures; 4) assist effectively with necessary procedures in the emergency setting and pre- and post-operative periods; 5) assist in all particulars delegated by the supervising practitioner; 6) apply previously acquired problem-solving skills in the management of patients; 7) apply principles of evidence-based medicine; and 8) make written and oral presentations on selected patient conditions. (4-week rotation) *Prerequisites: matriculation in MPAS-II curriculum.*

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)

MSHP 5302 Intro 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)

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)

MSHP 5304 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)

MSHP 5305 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 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. (200 clinical hours per enrollment period)

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. (200 clinical hours per enrollment period)

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. (200 clinical hours per enrollment period)

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. (200 clinical hours per enrollment period)

Admission Requirements

To be considered for admission to the physician assistant program, applicants must present official documentation of the following:

- Applicants must possess the academic and personal qualities necessary for mastery of the curriculum and future success as practicing physician assistants. Applicants should meet the minimal criteria for application and admission. All coursework is used in GPA calculations. Overall grade point average must be 3.0 or above on a 4.0 scale.
- Program criteria and deadlines are posted at <http://shp.utmb.edu/PhysicianAssistantStudies/ProspectiveStudents.asp>. Requirements and deadlines are subject to change.
- Applicants must have a bachelor's degree from an accredited university or college and must have completed all prerequisites with grades of "C" or better. All prerequisite credits and receipt of the bachelor's degree must be completed no later than the spring semester of the year of matriculation. The program does not accept prior learning experience to fulfill prerequisites and/or professional coursework credit as evidenced through written examinations, portfolios, demonstrated skills, or health care experience.
- Applicants must submit and complete the CASPA application, official transcripts, and supporting documents on or before the published deadline.
- Applicants must complete the UTMB supplemental application.
- Results of the Graduate Record Examination (verbal and quantitative scores) must be received by CASPA in order for application to be considered complete. GRE institution code is 0437. GRE scores are valid for five years from date taken..
- Areas to include in the supporting statement: experiences (medical and otherwise), special and unique talents, honors and accomplishments, work history, community service, extracurricular activities, geographic representation, social and economic background, special personal circumstances, and leadership potential.
- Applicants must have paid appropriate fees to CASPA and UTMB.

List of Prerequisite Courses

Anatomy with lab (Strongly prefer vertebrate comparative anatomy. Kinesiology courses do not count toward this requirement.)	4
Behavioral Sciences (sociology, psychology)	6
Biological Sciences for biology majors with lab (If you CLEP general biology, you will need to complete another biological science course (8 hours) with lab for this requirement)	8
Chemistry for biology majors with lab	8
College Algebra or higher	3
Genetics (without lab)	3
Immunology/Virology (Nutrition, molecular biology, cellular, or embryology may be substituted although immunology or virology are preferred)	3
Microbiology/Bacteriology for biology majors with lab	4*
Organic Chemistry/Biochemistry with lab	4*
Physiology with lab (Strongly prefer vertebrate comparative physiology. Kinesiology courses do not count toward this requirement.)	4
Statistics (with analysis of variance and/or multiple regression)	3

*3 credits acceptable when university does not offer lab with course. All science courses must be for biology majors.

Admission requirements for Physician Assistant 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 from an accredited Physician Assistant Program and current physician assistant license
- Cumulative GPA greater than or equal to 3.0 on a 4.0 scale
- TOEFL score of 550 (if English is a second language)
- Program criteria and deadlines are posted on the UTMB Physician Assistant Program web page. Requirements and deadlines are subject to change
- Applicants must submit results of the Graduate Record Examination (verbal and quantitative scores). GRE institution code is 6887; department code is 0601. Results must be received by UTMB Enrollment Services by the published deadline. GRE scores are valid for five years from date taken.
- Minimum of three (3) letters of recommendation from practicing professionals in your field.

Department of Respiratory Care

Chair and Professor

Jon O. Nilsestuen, Ph.D., RRT

Associate Professors

Henry Cavazos, J.D.

Bruce Niebuhr, Ph.D.

Jose Rojas, Ph.D., RRT

Assistant Professors

Tammy Babcock, MHA, RRT-NPS; Director of Clinical Education

Daneen Nastars, BSRC

Clinical Professors

Donald Prough, M.D., Program Medical Director

Clinical Associate Professors

Alex Duarte, M.D.

Aristides Koutrouvelis, M.D., FCCP

Ronald P. Mlcak, Ph.D., RRT

Clinical Assistant Professors

Paula Cowan, MPH, BS, RRT

Kenneth D. Hargett, MBA, RRT

Herbert Jackson, M.S., RRT

Denise McElyea, MSM, RRT, RPFTS

Clinical Instructors

Lacey Arms, BSRC, RRT

Stephanie Gann Naylor, BSRC

Juliamaria Gaona, B.S., BSRC, RRT

Jessica Hays, BA, RRT

Yuvraj Malhotra, BSRC, RRT, CPFT

Abbey Nelson, BS, RRT

Vivian Tran, BSRC, RRT

THE RESPIRATORY CARE 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.

RESPIRATORY THERAPIST GRADUATES

Respiratory therapy graduates function in a wide variety of settings. As clinicians they work in adult intensive care units, pediatric and neonatal intensive care units, emergency and trauma units, operating and recover y rooms, rehabilitation programs, home health agencies,

and a variety of cardiopulmonary diagnostic laboratories. Some graduates pursue advanced degrees in management, education, public health, or the biomedical sciences. Graduate degrees lead to teaching or research positions in educational institutions. Senior respiratory care practitioners may be responsible for the management and operation of respiratory care departments.

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. Student 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, student 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 communications. 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 other, 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 Career Ladder Program for Registered Respiratory Therapists; and 3) several master's degree options including an MS in Health Professions for RRTs already possessing a bachelors degree and two dual degree options that allow qualified applicants to pursue a combined degree leading to a bachelor's degree in Respiratory Care and a doctoral degree in Physical Therapy (BSRC/DPT) or a master's degree in Physician Assistant Studies (BSRC/MPAS).

Foundation Program

This program is a “2 + 2” curriculum format for students entering the profession. Prospective students must first complete 61 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, however, there are both FULL TIME and PART TIME degree plans offered in the foundation program; 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 successful completion of the first four semesters of the Foundation Curriculum, students in the spring semester of their senior year are recognized as having completed the equivalent of an associate of applied science degree in respiratory care, and are required to take and pass the National Board for Respiratory Care (NBRC) Entry Level Exam. As part of their senior coursework students are also required to take and pass the NBRC written registry exam and the clinical simulations exam. After completion of the remaining senior course work and all curriculum requirements, with a minimum GPA of 2.0, the degree of Bachelor of Science in Respiratory Care is conferred. Graduation from an accredited educational program and successful completion of the entry-level exam administered by the NBRC fulfills the eligibility requirements of the Texas Department of Health for state certification as a respiratory care practitioner.

The AS to BSRC Bridge Program or Career Ladder 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 career ladder program; please contact your advisor for additional information. Entering Career Ladder 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 bachelors degree in respiratory care they must complete an additional 37 hours of advanced coursework. In addition to the RRT credential, Career Ladder students must also complete the 61 semester credit hours of general and science prerequisite courses that are required of the Foundation Program students. Career Ladder students are eligible to apply for entrance during any semester.

The Alternate Program

This program is designed for students who need additional time to complete the curriculum. In this program the normal course sequence for the Foundation Program is extended over a three-year period. Students who have been admitted to the Alternate Program may be required to select additional semester hours of credit from electives chosen with the approval of the advisor and department chair. These electives, along with the normal courses listed in the Foundation Program are distributed over a three-year period.

Master of Physician Assistant Studies and Doctor of Physical Therapy Programs

The BSRC/MPAS and BSRC/DPT Tracks allow qualified applicants to pursue a graduate degree program that complements and expands upon the baccalaureate degree in respiratory care. The B.S. in Respiratory Care (BSRC) and completion of the NRBC Registry Credential must be completed before entering the Master of Physician Assistant Studies or Doctor of Physical Therapy degree programs. Some students may require additional time to complete the graduate prerequisite requirements and may apply to the graduate programs after completion of the Bachelors of Respiratory Care degree.

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 in one of four specialty areas described below. The Master of Science degree includes 35 credit hours of coursework consisting of 15 credit hours of core curriculum and 20 credits hours of guided practicum. The guided practicum is composed of didactic work and applied practice, divided equally over four enrollment periods of five credits each. The practicum will include detailed objectives with specific reading assignments that provide relevant content and form a basis for the practical experience. The four alternative tracks are:

- **Management** – The management track will provide the student with an overview of current principles and practice in health care administration including financial management, human resource management, JCAHO accreditation procedures, Medicare reimbursement and health care regulation. With this background students will complete an internship in a health-related industry working in a management capacity. During the internship the student will work on a project of significant importance to a sponsoring organization. The student will develop a proposal defining the scope of the project, identify institutional expectations, manage timelines, analyze outcomes, summarize the results and submit the project in written and presentation form.
- **Education** – The education track will provide the student with an overview of education theory; an opportunity to develop skills in the use of course management software; design of online educational resources and creation of online evaluation instruments. With this background students will develop an educational project consisting of learning objectives, reference-based course materials, development of psychomotor skills lab as appropriate, and outcomes assessments. Project evaluations will include a written thesis project, supervisor evaluations, and learner feedback.
- **Research (Available in 2015)** – The research track will provide the student with the opportunity to work in state-of-the-art laboratories under the guidance of the principal investigator. Students will be provided an overview of the laboratory and the research interest by the principal investigator. Under guidance of the principal investigator students are provided an opportunity to develop knowledge of research methodology, data analysis and critical thinking by participating in an assigned project. The student will submit in written and presentation form a summary of the project to include hypothesis, methods, results, and discussion.
- **Clinical Practice (Advanced) (Available in 2016)** – The clinical practice track will provide the student with the opportunity to develop advanced clinical skills in their profession. The student will develop interpersonal communication skills with patients as well as other health care providers and demonstrate the importance of clinical decision-making in the care of the patient. Students will also examine the importance of collaboration with other health care professionals in the coordination patient care and evaluate the ethical standards and record keeping of patient information, including the reporting of clinical information.

PROGRAM ACCREDITATION GOAL

The goal of the Respiratory Care Program is to prepare students as competent advanced 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 advanced-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 advanced level respiratory therapists
3. Affective domain—to prepare students with the ability to demonstrate professional behaviors consistent with employer expectations as advanced-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.

Students are required as part of their senior course requirements to take and pass in sequence the Entry Level Certified Respiratory Therapists Exam (CRT), and the Registered Respiratory Therapists Exams (RRT) administered by the National Board for Respiratory Care. Upon completion of all curriculum requirements with a minimum GPA of 2.0, the degree of Bachelor of Sciences 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 Department of State Health Services (Respiratory Care Practitioners Certification Program). For further information contact:

Respiratory Care Practitioners Certification Program
Texas Department of State Health Services
1100 West 49th Street
Austin, Texas 78756–3183, USA

ACADEMIC PERFORMANCE STANDARDS – MASTER OF SCIENCE IN HEALTH PROFESSIONS GRADUATE STUDENTS

See “Satisfactory Academic Progress in Graduate Programs” pages 125–126.

PROFESSIONAL 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

Two-Year Program 2012-2014

JUNIOR YEAR

Fall Semester

RESC 3116 Respiratory Therapeutics Lab.....	1
RESC 3315 Respiratory Therapeutics	3
RESC 3412 Pulmonary Physiology	4
RESC 3413 Pathophysiology and Patient Assessment.....	4
RESC 3414 Respiratory Pharmacology	4
TOTAL HOURS	16

Spring Semester

RESC 3124 Critical Care Instrumentation.....	1
RESC 3125*Physiologic Monitoring Lab	1
RESC 3322 Neonatal and Pediatrics	3
RESC 3523 Clinical Applications of Mechanical Ventilation.....	5
RESC 3621*Physiologic Monitoring.....	6
TOTAL HOURS	16

Summer Semester

RESC 3133*Pulmonary Functions Lab	1
RESC 3235 Intro to Diagnostics and Specialty Clinics.....	2
RESC 3236 Diagnostic Procedures.....	2
RESC 3330*Computer Utilization for Health Care Management	3
RESC 3332*Pulmonary Functions.....	3
RESC 3434 Intro to Clinical Practice.....	4
TOTAL HOURS	15

JUNIOR TOTAL CREDITS

TOTAL HOURS

47

SENIOR YEAR

Fall Semester

RESC 4143**Program Entry-Level Comprehensive Exam.....	1
RESC 4147*Intro to Management Skills in Health Care.....	1
RESC 4165*ACLS.....	1
RESC 4245 Pedi/Neo Critical Care Clinical I.....	2
RESC 4246 Specialty Rotation Clinical I.....	2
RESC 4248*Introduction to Research.....	2
RESC 4444 Adult Critical Care Clinical I.....	4
TOTAL HOURS	13

Spring Semester

RESC 4153*Program Written Registry Comprehensive Exam	1
RESC 4355 Pedi/Neo Critical Care Clinical II.....	3
RESC 4356 Specialty Rotations Clinic II.....	3

RESC 4357*Legal and Ethical Issues in Health Care.....	3
RESC 4554 Adult Critical Care Clinical II	5
TOTAL HOURS	15

Summer Semester

RESC 4166*Clinical Simulations.....	1
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	12

SENIOR YEAR TOTAL CREDITS	40
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TOTAL PROGRAM CREDITS	87
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* Career Ladder Program Required Courses—Total Credit Hours = 37 CREDITS

** Career ladder students may meet this requirement by taking RESC 4090 Special Topics

-Advanced Practice Certification

AS to BS BRIDGE or CAREER LADDER – PROGRAM

Fall Semester

* RESC 3030 Computer Utilization for Health Care Management.....	3
* RESC 4147 Intro to Management Skills in Health Care	1
* RESC 4153 Program Written Registry Comprehensive Exam.....	1
* RESC 4165 ACLS	1
* RESC 4166 Clinical Simulations	1
* RESC 4248 Introduction to Research.....	2
* RESC 4357 Legal & Ethical Issues in Health Care	3
TOTAL CREDITS	12

Spring Semester

* RESC 3125 Physiologic Monitoring Lab	1
* RESC 3621 Physiologic Monitoring.....	6
* RESC 4367 Adult Critical Care Clinical III.....	3
TOTAL CREDITS	10

Summer Semester

* RESC 3133 Pulmonary Functions Lab	1
* RESC 3332 Pulmonary Functions.....	3
* RESC 4090 Special Topics (Adv Practice Cert or Entry Level Comp).....	1
* RESC 4264 Professional Issues	2
* RESC 4361 Rehabilitation and Home Care	3
* RESC 4368 Clinical Internship & Specialty Rotations III.....	3
TOTAL CREDITS	15

Note RESC 4090 Advanced Practice Certification can be met by any of several options -NRP, NPS, CPFT, RPFT, Asthma Ed Certification or other advanced practice training

*Career Ladder Program Required Courses – Total Credit Hours = 37 CREDITS

Masters of Science in Health Professions – Management Track

MSHP 5301 Medical Ethics	3
MSHP 5302 Intro to Scientific Writing	3
MSHP 5303 Health Care Policy for Clinicians.....	3
MSHP 5510 Leadership and Human Resource Management.....	5
MSHP 5511 Health Information Management.....	5
MSHP 5512 Health Care Finance	5
MSHP 5513 Quality Assurance, Risk Management, and Patient Safety	5
MSHP 5304 Capstone or Thesis Project I	3
MSHP 5305 Capstone or Thesis Project II.....	3
TOTAL CREDITS	35

Masters of Science in Health Professions – Education Track

MSHP 5301 Medical Ethics	3
MSHP 5302 Intro to Scientific Writing	3
MSHP 5303 Health Care Policy for Clinicians.....	3
MSHP 5520 Developing Course Materials	5
MSHP 5521 Technology in the Classroom.....	5
MSHP 5522 Laboratory and Clinical Education	5
MSHP 5523 Clinical Simulation Technology.....	5
MSHP 5304 Capstone or Thesis Project I	3
MSHP 5305 Capstone or Thesis Project II.....	3
TOTAL CREDITS	35

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 3030 Computer Utilization for Health Care Management

1-3 Credits

The student will be given the opportunity to demonstrate proficiency in the management of patient data within the health care system through utilization of computer tools, including word processing, spreadsheets, and databases. (10 lecture and 10 laboratory hours per credit hour per enrollment period) *Prerequisites: Enrollment in the Respiratory Care Program or permission from the instructor.*

RESC 3116 (Laboratory) Respiratory Therapeutics Lab

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 (Laboratory) Critical Care Instrumentation Lab 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. (60 lab hours per enrollment period)

Prerequisites: Successful completion of all fall semester junior courses.

RESC 3125 (Laboratory) Physiologic Monitoring Lab 1 Credit

This course is a laboratory course to apply skills from RESC 3621. Credit for this course will be based on laboratory performance. See corresponding lecture course RESC 3621. (45 lab hours per enrollment period) *Prerequisites: None.*

RESC 3133 (Laboratory) Pulmonary Functions Lab 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 Intro to Diagnostics & Specialty Clinics 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. (120 clinical hours per enrollment period) *Co-requisite s: RESC 3332 Neonatal and Pediatrics and 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 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 3322 Neonatal and Pediatrics 3 Credits

This advanced-level course provides the student the opportunity to acquire knowledge and skills relating to the diagnosis and management of neonatal and pediatric patients. Lecture topics include physiologic and anatomic development, diagnosis, and management of neonatal and pediatric disorders, mechanical ventilation, and specialized equipment. Credit for this course is based on written examinations and assignments. (45 lecture hours per enrollment period) *Prerequisites: Successful completion of all fall semester junior level courses.*

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: Successful completion of RESC 3412 Pulmonary Physiology and RESC 3413 Pathophysiology and Patient Assessment.*

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: Consent of the instructor.*

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 and 15 hours of practicum for competency evaluations. (75 hours per enrollment period) *Prerequisites: None.*

RESC 3414 Respiratory Pharmacology 4 Credits

This intermediate course provides the student with the opportunity to develop knowledge related to the principles of respiratory pharmacology including: regulatory agencies, dosage calculations, and the physiology of the autonomic nervous system. Major topics presented

include: sympathomimetics, parasympatholytics, xanthines, prostaglandins, mucokinetics, corticosteroids, cromolyn sodium, other bronchoactive agents, and neuromuscular blockers. Additionally, central nervous system, cardiovascular and diuretic, and antimicrobial agents are included. Credit for this course will be based on didactic quizzes, examinations, and assignments. (60 lecture hours per enrollment period) *Prerequisites: Consent of the instructor.*

RESC 3434 Intro to Clinical Practice 4 Credits

This introductory clinical course provides the student with the opportunity to develop general patient assessment and therapeutic skills while rotating through adult and pediatric floors, outpatient pediatric asthma clinic, and the emergency department. In addition 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 techniques, and lung expansion; 4) develop and practice skills in assembling, using, and troubleshooting medical devices; and 5) participate in reflective self-evaluation. Evaluation is based upon completion of competency check-offs and weekly case studies. (240 clinical hours per enrollment period) *Prerequisites: AHA Basic Life Support Certification; Completion of all junior-level didactic and laboratory courses with grade of "C" or better, or completion of degree plan sequence for Alternate Track students.*

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: Successful completion of all fall semester junior courses.*

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: Successful completion of all fall semester junior level courses.*

RESC 4090 Special 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; or 3) completion of advanced practice certification –this can be met by any of several options e.g. NRP, NPS, CPFT, RPFT, Asthma Educator Certification or other advanced practice training. 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 preceptorships in management or medical supervision for clinical research will be made through affiliated institutions. (60–120 hours per enrollment period) *Prerequisites: Successful completion of RESC 4143 Program Entry-Level Comprehensive Exam and RESC 4153 Program Written Registry Comprehensive Exam.*

RESC 4143 Program Entry-Level Comprehensive Exam

1 Credit

This upper-level course provides the opportunity to assess the student's competency in entry-level respiratory care skills. Students who have successfully completed the first year of the respiratory care program are required to take and pass the entry-level comprehensive examination. This examination is parallel to the National Board for Respiratory Care Entry-Level Examination. Students will be allowed up to three attempts to achieve a passing score (70% or greater) on the examination. Students who do not complete this course by achieving a passing score on the entry-level comprehensive examination will not be eligible to enroll for the spring semester of the senior year. (15 lecture hours per enrollment period) *Prerequisites: Successful completion of all junior-level courses.*

RESC 4147 Intro to Management Skills in Health Care

1 Credit

The student will be given the opportunity to: 1) identify the major concepts in health care management; 2) identify the more significant external influences in health care management; and 3) identify the major concepts in personnel, fiscal, and resource management. (15 lecture hours per enrollment period) *Prerequisites: Enrollment in the Respiratory Care Program or permission from the instructor.*

RESC 4153 Program Written Registry Comprehensive Exam

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 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 Registry Examination. The student will be allowed up to three attempts to achieve a passing score (70 percent or greater) on the examination. The student who does not complete this course by achieving a passing score on the registry comprehensive examination will not be eligible to enroll for the summer session of the senior year. (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

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: Senior-level status.

RESC 4166 Clinical Simulations

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: None.

RESC 4245 Neonatal and Pediatric Critical Care Clinic I

2 Credits

This clinical practicum provides the student the opportunity to develop knowledge and skills in patient assessment and delivery of therapeutics to neonatal and pediatric patients. The student will have the opportunity, with guided supervision in both the Pediatric Intensive Care Unit (PICU) and the Neonatal Intensive Care Unit (NICU) to: 1) perform patient assessment(s); 2) administer aerosol and oxygen therapy, 3) apply bronchial clearance maneuvers; 4) maintain and perform artificial airway care; 5) participate in initial resuscitation of the newborn infant; 6) observe and assist with patient transport; and 7) provide mechanical ventilatory support. Evaluation is based upon completion of competency check-offs. (140 clinical hours per enrollment period) *Prerequisites: RESC 3322 Neonatal and Pediatrics Didactic Course and American Heart Association Neonatal Resuscitation Program Certification.*

RESC 4246 Specialty Rotations Clinical I

2 Credits

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 that may include the Pulmonary Functions Lab, Cardiovascular ICU, the operating room, the Investigational Research Lab, outpatient rehabilitation, outpatient pediatric asthma clinic, and the Emergency Department. Students will have the opportunity to: 1) perform pulmonary function tests on a variety of patients; 2) observe cardio-diagnostic tests, including 12-lead EKGs, cardiac stress tests, and echocardiography; 3) perform hemodynamic measurements, including measurement of systemic and pulmonary vascular pressures, measurement of cardiac output using thermal dilution, and calculation of vascular resistance; and 4) perform and interpret arterial blood gases and oxygen saturation measurements. (140 hours per enrollment period) *Prerequisites: RESC 3434 Intro to Clinical Practice and RESC 3235 Intro to Diagnostics and Specialty Care Clinics.*

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: Senior-level status.*

RESC 4355 Neonatal and Pediatric Critical Care Clinic II **3 Credits**

This clinical practicum provides the student the opportunity to further practice and refine skills experienced during Neonatal and Pediatric Critical Care Clinic I. The student will have the opportunity, under guided supervision in both the PICU and 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; and 6) demonstrate “supervised independence” in managing patients with a 0.5 full-time-equivalent patient assignment. Evaluation is competency-based. (140 hours per enrollment period) *Prerequisites: RESC 4245 Neonatal and Pediatric Critical Care Clinic I.*

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. The student will have the opportunity to: 1) perform and interpret pulmonary diagnostic tests in both inpatient and outpatient clinics (e.g., asthma clinic and rehabilitation clinics); 2) provide instruction for patients about chronic lung disease, including the pathology of the disease, diagnostic tests, treatment modalities, and drug therapy; 3) demonstrate quality-assurance procedures on diagnostic equipment, including pulmonary function and blood gas equipment; 4) measure and evaluate hemodynamic data from patients in critical care areas (e.g., rotations at the Methodist Cardiovascular Intensive Care Unit in Houston and the Shriners Burns Hospital in Galveston); and 5) evaluate data from other specialty tests (metabolic tests, polysomnography, and bronchoscopy). (120 hours per enrollment period) *Prerequisites: RESC 4444 Adult Critical Care Clinical I and RESC 4246 Specialty Rotation Clinical I.*

RESC 4357 Legal & Ethical Issues in Health Care **3 Credits**

The student will be given the opportunity to demonstrate: 1) an understanding of ethical principles; 2) an understanding of legal factors which impinge upon health care; and 3) the ability to apply ethical and legal concepts to the analysis of the roles and responsibilities of the health professional. (45 lecture hours per enrollment period) *Prerequisites: Enrollment in the Respiratory Care Program or permission from the instructor.*

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. (52.5 lecture hours per enrollment period) *Prerequisites: Successful completion of RESC 4153 Written Registry Comprehensive Exam.*

RESC 4367 Adult Critical Care Clinic 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). (180 clinical hours) *Prerequisites: RESC 4554 Adult Critical Care Clinical II or career ladder status.*

RESC 4368 Clinical Internship and Specialty Rotations Three 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 (AEC)); and 4) develop the skills necessary to attempt specialty life support certification (e.g., Neonatal Pediatric Resuscitation (NPR), Pediatric Advanced Life Support (PALS), Advanced Trauma Life Support-ATLS, or the Advanced Burn Life Support (ABLS)). Elective clinical areas may include neonatal, pediatric, or adult critical care; pulmonary functions; asthma outpatient clinic; emergency department; burn units; advanced floor care (assessment team); Camp RAD; the Investigational Research Laboratory; student teaching laboratories; home care; and flight physiology. (Total clinical hours vary between 180–300 per enrollment period) *Prerequisites: Successful completion of RESC 4554 Adult Critical Care Clinic II, RESC 4355 Neonatal and Pediatric Critical Care Clinic II, and ACLS certification.*

RESC 4444 Adult Critical Care Clinic 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. (240 clinical hours per enrollment period) *Prerequisites: RESC 3523 Clinical Applications of Mechanical Ventilation; Co-requisite: ACLS training.*

RESC 4554 Adult Critical Care Clinic 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. (240 hours per enrollment period) *Prerequisites: RESC 4444 Adult Critical Care Clinic I and successful completion of ACLS course RESC 4165 ACLS.*

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)

MSHP 5302 Intro 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)

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)

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)

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 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. (200 clinical hours per enrollment period)

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. (200 clinical hours per enrollment period)

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. (200 clinical hours per enrollment period)

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. (200 clinical hours per enrollment period)

MSHP 5510 Leadership and Human Resource Management 5 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; 5) develop core competencies necessary for leadership and human resource development

MSHP 5511 Health Information Management**5 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 ; 4) discuss recommendations for health information and electronic medical records from the President's Council of Advisors on Science and Technology and how it will effect health information management in the future.

MSHP 5512 Health Care Finance**5 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; 5) evaluate the financial management implications of current issues in health care.

MSHP 5513 Quality Assurance, Risk Management, and Patient Safety**5 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; 5) discuss ways that quality assurance and risk management programs all play a vital role in patient safety within health care organizations.

MSHP 5520 Developing Course Materials**5 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.

MSHP 5521 Technology in The Classroom**5 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 audience response systems; and 5) compare and contrast current software available for the implementation of computer testing.

MSHP 5522 Laboratory and Clinical Education**5 Credits**

This course will provide the student the opportunity to: 1) develop course objectives related to measuring psychomotor skills and affective characteristics; 2) develop or utilize tools for evaluating laboratory and clinical skills including video tape performance; 3) analyze evaluation data and provide performance feedback to students; 4) develop materials to train preceptors in the use of the evaluation tool; 5) assess the inter-rater reliability amongst preceptors using the evaluation instrument.

MSHP 5523 Clinical Simulation Technology

5 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; 5) troubleshoot common equipment difficulties encountered with human patient simulators; and 6) develop a clinical scenario for use with a human patient simulator.

Bachelors 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. 61 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
3. Bridge or Career Ladder 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 chair for transcript evaluation

Program Prerequisites

Required of BOTH Career Ladder and Foundation Program applicants

College Algebra	3
English Composition	6
Humanities or Literature	6
Must include (3) of Humanities or Literature (Philosophy, Classical Languages, or Cultural Studies; may include (3) of Speech)	
General Chemistry with Lab (recommend substituting Health Professions Sequence)	8
Human Anatomy and Physiology with Lab	8
Medical Terminology	1
Microbiology with Lab	4
Physics with Lab	4
Social / Behavioral Science	6
Social or Behavioral Sciences include courses with prefixes ANTH, ECON, CRIJ, GROG, PSYC, SOCI, SOCW	
United States History (may include Texas History)	6
United States Government (must include Texas Government)	6
Visual & Performing Arts (Arts, Dance, Music, Applied Music, Music Ensemble, Drama)	3
Total Prerequisite Semester Credit Hours	61

Please refer to the General Information Catalog section for Undergraduate Requirements for Admission available at <http://intranet.utmb.edu/enrollmentservices/about/Catalogs.html>.

Admission Requirements for Respiratory Care MSHP track:

Baccalaureate degree in any field. Registered Respiratory Therapist and current state license; TOEFL (if English is a second language, score of 550 - paper). GPA: greater than or equal to 3.0 on a 4.0 scale. If GPA is less than 3.0 must submit GRE scores. Letters of recommendation: minimum of three.

Division of Rehabilitation Sciences

Professor and Director

Kenneth Ottenbacher, OTR, Ph.D.

Professors

Christine Baker, PT, Ed.D.*

Karl Eschbach, Ph.D.*

Jean Freeman Ph.D.**

James Goodwin, M.D.†

Kyriakos Markides, Ph.D.†

Kurt Mossberg, PT, Ph.D.*

M. Kristen Peek, Ph.D.*

Elizabeth Protas, PT, Ph.D.*

Labros Sidossis, Ph.D.*

Oscar Suman, Ph.D.*

Elena Volpi, M.D., Ph.D.*

Associate Professors

Jacques Baillargeon, Ph.D.*

James Graham, Ph.D.

Caroline Jansen, PT, Ph.D.*

Douglas Paddon-Jones, Ph.D.*

Timothy Reistetter, OTR, Ph.D.*

Jennifer Rowland, PT, Ph.D.*

Assistant Professors

Soham Al Snih, M.D. Ph.D.

Mon Bryant, Ph.D.**

Diane Collins, OTR, Ph.D.*

Barbara Doucet, OTR, Ph.D.*

Bill Durham, Ph.D.*

Steve Fisher, Ph.D.*

Rebecca Galloway, PT, Ph.D.*

Wendy Herbert, PT, Ph.D.*

Amol Karmarkar, OTR, Ph.D.

Liz Lyons, MPH, Ph.D.*

Janna McGaugh, PT, Ph.D.*

Tara Patterson, Ph.D.*

Rafael Samper-Ternent, M.D.†

Gary Seale, Ph.D.**

Dana Wild, PT, Ph.D.*

Dennis Zgaljardic, Ph.D.**

Clinical Professor

Betty Abreu, OTR, Ph.D.*

Other

Meredith Masel, 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 Rehabilitation Sciences and the Ph.D. program in rehabilitation sciences offered through the Graduate Program in Population Health Sciences through the Graduate School of Biomedical Sciences. The division also recruits postdoctoral fellows who wish to engage in rehabilitation research. Currently, there are thirty-six core faculty members who conduct research related to disability and rehabilitation and assist in the supervision of students and fellows. Thirty-five students have been accepted in the PhD program since 2001 and 19 degrees have been conferred. Thirty-five postdoctoral fellows have been accepted and 31 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.

**Core faculty associated with rehabilitation sciences - postdoctoral fellowship program, curriculum in the Graduate School of Biomedical Sciences, or disability/rehabilitation research - but do not have academic appointment in the Division of Rehabilitation Sciences*

†Faculty have without-salary appointments in the Division of Rehabilitation Sciences, but primary appointments are in other departments or universities

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 may be required in 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."

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 less than 12 semester credit hours during a regular semester or full summer session, nor less than 6 semester credit hours during a 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 may be required in specific 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 clinical 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.

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 Courses: Unsatisfactory. Numerical range anything less than 70; earns 0 GPA points.
Graduate Programs Clinical Courses: Unsatisfactory. Numerical range anything less than 80; earns 0 GPA points.

- 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, 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 requirements of the student 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.

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.

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?year=2013>.

The Request for Class Schedule Change and Withdrawal Grade Assignment is available at http://shp.utmb.edu/asa/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 and 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, discontinues 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 for the first time beginning in the Fall 2007 semester or any subsequent semester are subject to the course withdrawal limit, 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 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.

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. 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. Request for Leave of Absence and Application for Reenrollment forms are available at http://shp.utmb.edu/asa/asa_forms.asp.

Student services and privileges provided to enrolled students will cease during the period of the leave. The student must maintain current contact information in the Office of the Registrar during the leave of absence.

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 specify 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 when the student may return to studies (not to exceed one year). An assessment of whether the student 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

Prior to matriculation, each degree seeking student admitted to any UTMB school is required to submit a criminal background check 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. Until the background check is clear, the student is conditionally accepted.

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.

Instructions for authorizing a background check are at http://www.shp.utmb.edu/background_checks.asp.

DRUG TESTS

A number of the school's clinical affiliations require clear drug screens for students entering clinical experiences in their facilities. Affiliation sites vary in what substances are to be tested, laboratories authorized to perform screenings, currency of the screening and the methods to report clearances. As a result, the school's on-demand drug testing policy attempts to accommodate these variables in a timely manner. Students receive instructions for submitting samples and completing the clinical facility's policy at their expense.

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 allied health and/or nursing education granted by nonacademic institutions according to the following formula: $22 \times \text{months of instruction} \div 24 \text{ months} = \text{semester credit hours}$.

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 Promotions 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 hours earned by correspondence instruction will be counted toward satisfying the prerequisites of any curriculum offered by the School of Health Professions.

STUDENT APPEALS

Course Grading and Evaluation—Informal Challenge Process

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.

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. Should the issue not be 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 Appeals Procedure

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.

The time limit to initiate a formal appeal, whether an appeal of a course grade or recommendation of the Gradings and Promotion committee, begins upon notification to the student by any reasonable means including electronic posting or notification, written posting or notification, email, posting in the Office of the Registrar student information system, or by USPS letter, return receipt requested, or by courier service.

- 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 (the Appeals Committee), clearly and concisely stating the factors related to the action under appeal.
- The student's written petition to appeal must be submitted within five work days (Monday– Friday, except holidays) of notice of the action which the student appeals.
- Upon receipt of the student's written petition, the Chair of the Grievance and Appeals Committee identifies members to serve on the panel.
- The members of the Grievance 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 unit, 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 Panel.
- If either the student or unit representative objects to the composition of the Appeals Panel, they may request a replacement of one or more members.
- The Committee Chair will make reasonable efforts to schedule the appeal hearing within five class days of receipt of the student's written petition. If this is not possible, the hearing should be held at the earliest possible date not to exceed an additional ten class days. Without exception, all appeals will be held on campus in Galveston.
- Each party submits to the Committee Chair the pertinent written materials to be presented to the panel no less than 48 hours prior to the hearing. The chair protects their confidentiality, arranges for duplication and distributes the materials to the parties and voting members 24 hours or more prior to the scheduled hearing.
- During the hearing, the Panel Chair ensures that the discussion and questions remain relevant to the issue. The committee members may question both the student and the faculty member.
- 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, grievant, respondent, their respective advisors, and a recording secretary (or recording device, if a secretary is unavailable).
- 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.
- Witnesses may be called in as needed and may address and answer questions from the panel only. Witness shall not confer with the party they represent.
- Upon completion of each party's presentations, the 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 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 presented in writing and by USPS, return receipt requested, within one class day to both the student and department. In the alternative, each party may sign an acknowledgement of receipt of the letter.
- Either party may appeal the decision of the Appeals Panel in writing and within one day to the Dean of the UTMB School of Health Profession, clearly and concisely stating why the decision of the panel should be set aside. The appeal must include a copy of the written appeal submitted to the Grievance Committee and the written conclusion of the Panel
- The Dean or the dean's designate, the Vice Dean, 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 shall render his or her written decision within five class days of receiving the appeal. The decision of the Dean shall be final.
- The chair of the appeals 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.

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 the coordinator of services for students with disabilities at (409) 772-1996 or the Office of Academic and Student Affairs at (409) 772-3030.

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 contained in the acceptance letter from the admissions director (or designated administrative official) of each program. The student will sign and date the document that verifies his or her capacity to perform the essential functions, either with or without accommodations.
- Return the signed and dated document related to Essential Functions to the admissions director along with his/her response to the program's acceptance letter. The signed and dated document will be placed in the student's file. If a student indicates a need for accommodation, the director of admissions shall forward

information to that student about the institutional policy on students with disabilities and about the need to contact the school Americans with Disabilities Act (ADA) liaison if that has not been done.

- Send to the ADA liaison within his or her school a completed Formal Request for Accommodation Due to a Disability form and documentation of disability from a qualified professional diagnostician. These materials should be provided to the school ADA liaison as soon as possible but no later than 60 days after receipt of the acceptance letter (or within 30 working days after being diagnosed with a disability). This timeline ensures that these requests can be assessed by the ADA coordinator and enhances the probability that accommodations will be dealt with in a timely manner.

The documentation from the student must specify the disability, the professional who determined the disability status, the method used to determine the disability status, and reasonable and specific ways to accommodate the student's disability within the context of the program.

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. Inform the course (academic or clinical) instructor/director, through the school ADA liaison, if needed, of the authorization for accommodation at the start of a course/clinical experience so that the student and course instructor/director can coordinate the specified accommodation(s).
- Notify the school ADA liaison in writing within 24 hours of any problem or concern relating to the implementation of an approved accommodation(s) based on a disability. This time period allows the school ADA liaison to investigate and initiate necessary processes and procedures

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.

DEAN'S ACADEMIC ACHIEVEMENT AWARD

To be eligible for the Dean's Academic Achievement Award, part-time baccalaureate students must first have completed 12 semester credit hours, and master's students must have completed 9 semester credit hours. No incomplete or unsatisfactory grades are permitted regardless of GPA. Thereafter, to receive the Dean's Academic Achievement Award, a student must complete at least two courses and/or 6 semester credit hours within a semester or a full summer session, and achieve a GPA of 3.5 or better for all course work completed during that enrollment period. For enrollment during the first or second summer term, a minimum of 3 and a maximum of 6 semester credit hours for undergraduate students, and a minimum of 2 and maximum of 5 semester credit hours for graduate students are required to qualify for the award. Final posting for this award will be Fall 2013, after which it will be discontinued.

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 honors, high honors and highest honors 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:

Highest Honors	Top 2%
High Honors	Next 5%
Honors	Next 8%

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 or the Dean's Academic Achievement Award List for at least one enrollment period. The GPA serves as the primary factor in determining eligibility for these honors. However, other factors may be considered if the percentage of qualifying students exceeds 15 percent.

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

Who's Who Among Students in American Universities and Colleges

The SHP Who's Who Selection Committee chose the top 8 percent of candidates nominated for Who's Who Among Students in American Universities and Colleges for the (academic year). The students were selected for above-average academic standing, as well as outstanding participation in extracurricular activities and community service.

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 Respiratory Care

- Outstanding Respiratory Care Academic Student Award
- Outstanding Respiratory Care Clinical Student Award
- Outstanding Respiratory Care Leadership Award

Department of Occupational Therapy

- Award for Excellence in Practice
- Outstanding Graduate Award
- Professional Excellence Award
- Service Award

Department of Physician Assistant Studies

- Faculty Award for Clinical Excellence
- Outstanding Physician Assistance Student Award
- William J. and Mary K. McGanity Award

Department of Physical Therapy

Gertrude Freeman Development Award

Outstanding Clinical Excellence Award

Outstanding Physical Therapy Research Award Special Category

Outstanding Physical Therapy Research Award Orthopedic Category

Outstanding Physical Therapy Research Award Neurologic Category

Outstanding Physical Therapy Student Award

Scholarships and Awards for All Professions

Alpha Eta Society Scholarship
John G. Bruhn Award for Professionalism
Christiansen Family Scholarship
Edith and Emanuel Cohen/Evelyn A Gerstein Memorial Scholarship
Dean's Competitive Academic Scholarship
The William T. "Bill" Donoho Endowment
Hector P. Garcia, M.D., Cultural Competence Award (UTMB-wide)
Thomas N. and Gleaves T. James Scholarship
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)

External Scholarships

Students often qualify for awards from external organizations and 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.

Scholarships and Awards for Specific Professions

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

Ruth Morris Endowed Scholarship

University Federal Credit Union Endowed Scholarship honoring Edith Camellia St. John

Mary Jane Webb Memorial Scholarship

Occupational Therapy

Competitive Academic Scholarships in OT

Texas Society, Daughters of the American Revolution Endowed Scholarship

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)

Physician Assistant Studies

Salah Ayachi Scholarship in Physician Assistant Studies
Competitive Academic Scholarships in PAS
Dr. Daniel C. Allensworth Scholarship Endowment
Harry and Joanne Davis Scholarship in Physician Assistant Studies
William McGanity Endowment

Respiratory Care

Competitive Academic Scholarships in RC
Judy Jones Reinhardt Endowed Scholarship Fund

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.

Criteria

To be eligible, students must meet the following criteria:

1. Have been accepted for admission into a SHP program
2. Be recommended by a department faculty member or selection committee member
3. Be a student in good standing as defined under satisfactory academic progress (see “Satisfactory Academic Progress in Undergraduate Programs” on page 124 and “Satisfactory Progress in Graduate Programs” on page 125), with no holds or incomplete courses, and not on academic or disciplinary probation
4. For academic scholarships, demonstrate academic merit through one or more of the following:
 - a. Membership in an honor society for scholarship or academic excellence
 - b. Selection to the Dean’s List
 - c. Nomination as a National Merit Scholar
 - d. Documented previous receipt of award or scholarship for academic excellence
 - e. Demonstrate a GPA that places the student in the top 5 percent of his or her class
5. For service-based scholarships, show evidence of community, charitable, or volunteer service or show evidence of service to the class, school, or professional organization
6. Have demonstrated financial need, if appropriate for a particular scholarship

Procedure

The procedure for applying for departmental awards differs by program; please check with the department of interest for specific information. For SHP-wide awards, nominations are submitted to the selection committee with a letter of recommendation and a student profile sheet (description of student accomplishments). The selection committee ranks each

nominee on the basis of the established criteria for the specific awards. The student with the highest ranking after the application is reviewed by all committee members is granted the award.

Nonresident students who have been awarded a competitive scholarship by the UTMB or SHP Scholarship Committees may be eligible to pay resident tuition rates (in lieu of out-of-state tuition) for the semester(s) for which the scholarship is awarded. The scholarship must permit awards to both resident and nonresident students, and total at least \$1,000 for the period of time covered by the scholarship, not to exceed twelve months. If the scholarship is terminated for any reason prior to the end of the semester(s) for which it was initially awarded, the student shall be required to pay nonresident tuition for any semester following the termination of the scholarship.

Student Organizations and Services

SCHOOL OF HEALTH PROFESSIONS STUDENT ORGANIZATIONS

Alpha Eta Honor Society (Interdisciplinary health professions students, graduates and professionals)

American Red Cross Student Organization (ARCSO)

Lambda Tau National Honor Society (Clinical Laboratory Sciences)

Muscle Biology of Exercise and Nutrition Student Organization (Nutrition and Metabolism)

Physician Assistant Studies Student Organization

Physical Therapy Student Organization

Pi Alpha National Honor Society for Physician Assistants

Pi Theta Epsilon National Honor Society (Occupational Therapy)

Respiratory Therapy Student Association (RTSA)

Student Ambassador Society (SAS)

Student Occupational Therapy Association (SOTA)

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) provide 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 accomplishment of their personal, academic, and professional goals. To accomplish 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. An asterisk (*) indicates a joint appointment in the UTMB Graduate School of Biomedical Sciences.

- ABREU, Beatriz C.**, Clinical Professor, Department of Occupational Therapy, 1994; Ph.D., New York University, 1991.
- ADCOCK, Bruce**, Assistant Professor, Department of Respiratory Care, 2013; M.S., RRT, Texas Tech University, 2009.
- AL SNIH, Soham**, Assistant Professor, Division of Rehabilitation Sciences, 2008; M.D. Universidad Central de Venezuela, "Luis Razetti" School of Medicine, University Hospital. Caracas, Venezuela, 1986.
- ASHFORD, Heather**, Assistant Professor, Department of Physician Assistant Studies, 2013; M.P.A.S., University of Nebraska Medical Center, 2009.
- * **AYACHI, Salah**, Associate Professor, Department of Physician Assistant Studies, 1979; Ph.D., University of Texas Medical Branch at Galveston, 1974.
- BABCOCK, Tammy**, Assistant Professor, Department of Respiratory Care, 2011; MHA RRT, Capella University, 2010.
- * **BAKER, Christine P.**, Professor, Department of Physical Therapy, 1986; Ed.D., Texas Tech University, 1989.
- BEAL, Kira**, Assistant Professor, Department of Occupational Therapy, 2009; OTD, Creighton University, 2010.
- BORILLO, Jason**, Instructor, Department of Physician Assistant Studies, 2013; M.S., Baylor College of Medicine, 2005.
- BRADLEY, D. Michael**, Assistant Professor, Department of Occupational Therapy, 2013; Ph.D., Texas Woman's University, 2009.
- BRODERICK, Vickie S.**, Instructor, Department of Physician Assistant Studies, 1984; B.S., University of Texas Medical Branch at Galveston, 1984.
- BROOKS, Meghan**, Instructor, Department of Physician Assistant Studies, 2013, M.P.A.S., University of Texas Medical Branch at Galveston, 2006.
- CAVAZOS, Henry J.**, Associate Dean for Academic and Student Affairs, 2003; J.D., South Texas College of Law, 1990.
- CHAPMAN, Karen**, Clinical Instructor, Department of Physical Therapy, 2000; DPT, Simmons College, 2007.
- COLE, Collier M.**, Clinical Professor, Department of Physician Assistant Studies, 1976; Ph.D., University of Houston-Central Campus, 1976.
- COLLINS, Diane**, Assistant Professor, Department of Occupational Therapy, 2012; Ph.D., University of Pittsburgh, 2004.
- COLLINS, Thomas J.**, Associate Professor, Department of Neuroscience & Cell Biology; Ph.D., University of Texas Medical Branch at Galveston, 1981.
- COWAN, April**, Assistant Professor, Department of Occupational Therapy, 2012; OTD, Rocky Mountain University, 2012.

- COWAN, Paula**, Clinical Assistant Professor, Department of Respiratory Care, 2002, MPH, University of Massachusetts-Amherst, 2009.
- DAVIDSON, Donald A.**, Associate Professor Emeritus, Department of Occupational Therapy, 1994; M.A., University of Southern California, 1968.
- DAVIS, Stephen Keith**, Instructor, Department of Physician Assistant Studies, 2013; B.S., University of Texas Medical Branch at Galveston, 1996.
- DONG, Jianli**, Adjunct Associate Professor, Department of Clinical Laboratory Sciences, 2013; M.D., The First Military Medical University, Guangzhou, China, 1985.
- EAMES, Jennifer R.**, Assistant Professor, Department of Physician Assistant Studies, 2010; MPAS, University of Nebraska Medical Center, 2010.
- ELLISON, Jennifer B.**, Associate Professor, Department of Physical Therapy, 2000; Ph.D., Texas Woman's University, 1995.
- ELTON, Catherine**, Clinical Instructor, Department of Physical Therapy, 2002; MPT, University of Texas Medical Branch at Galveston, 1997.
- EMORY, Lee E.**, Clinical Assistant Professor, Department of Physician Assistant Studies, 1984; M.D., University of Texas Medical Branch at Galveston, 1969.
- ENDERLE, Janet, Clinical** Assistant Professor, Department of Clinical Laboratory Sciences, 2013; Ph.D., University of Texas Medical Branch at Galveston, 2013.
- ESANI, Muneeza**, Clinical Assistant Professor, Department of Clinical Laboratory Sciences, 2009; M.H.A., MT(ASCP), Texas Woman's University, 2001.
- FARRONI, Laura W.**, Assistant Professor, 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; Ph.D., Texas Woman's University, 2005.
- FINLEY, Jane**, Clinical Assistant Professor, Department of Clinical Laboratory Sciences, 2002; MS, Texas Women's University, 2011.
- FISHER, Steven R.**, Assistant Professor, Department of Physical Therapy, 2011; Ph.D., University of Texas Medical Branch at Galveston, 2008.
- FREEMAN, Gertrude**, Professor Emeritus, Department of Physical Therapy, 1994; M.A., University of Iowa, 1969.
- FREEMAN, Vicki**, Chair and Professor, Department of Clinical Laboratory Sciences, 1996; Ph.D., University of Nebraska, 1995.
- FULCHER, Sr., Perry L.**, Associate Professor, Department of Physician Assistant Studies, 1984; M.D., University of Texas Medical Branch at Galveston, 1980.
- FURTADO, Michael**, Assistant Professor, Department of Physical Therapy, 2010; DPT, Boston University, 2008.
- GALLOWAY, Rebecca**, Assistant Professor, Department of Physical Therapy, 2008; MPT, University of Texas Medical Branch at Galveston, 2002.
- GIVEN, Randall**, Associate Professor, Department of Neuroscience & Cell Biology; Ph.D., Washington University, 1978.
- * **GRAHAM, James E.**, Associate Professor, Division of Rehabilitation Sciences, 2008; Ph.D., SUNY University at Buffalo, 2006.

- HAARDT, Peggy L.**, Instructor, Department of Physician Assistant Studies, 1977; B.S., University of Texas Medical Branch at Galveston, 1976.
- HARGETT, Kenneth D.**, Clinical Assistant Professor, Department of Respiratory Care, 1994; MHA, Independence University, 2010.
- HEERMANS, Mary F.**, Professor Emeritus, Department of Occupational Therapy, 1969; M.S., University of Illinois, 1941.
- HENDERSON, Roderick**, Adjunct Assistant Professor, Department of Physical Therapy, 2010; MPT, University of Texas Medical Branch at Galveston, 2002.
- HILTON, Claudia L.**, Assistant Professor, Department of Occupational Therapy, 2013; Ph.D., Nova Southeastern University, 2006.
- HUNTER, Janis G.**, Clinical Assistant Professor, Department of Occupational Therapy, 1991; M.A., Texas Woman's University, 1990.
- INDRIKOV, Alexander J.**, Associate Professor, Department of Clinical Laboratory Sciences, 1997; M.D., National University Pedro Henriquez Ureña , 1982.
- * **INNISS, Astrid**, Assistant Professor, Department of Nutrition and Metabolism, 2011; Ph.D., Auburn University, 2002.
- JACKSON, Herbert**, Clinical Assistant Professor, Department of Respiratory Care, 2009; M.S., Texas Southern University, 2008.
- JANSEN, Caroline W.**, Associate Professor, Department of Physical Therapy, 1996; Ph.D., Texas Woman's University, 1995.
- KARMAKAR, Amol M.**, Assistant Professor, Division of Rehabilitation Sciences, 2012; Ph.D., University of Pittsburgh, 2009.
- KANUTH, Michelle**, Professor Emeritus, Department of Clinical Laboratory Sciences, 2012; Ph.D., University of Kentucky, 1991.
- KASEL, John F.**, Assistant Professor, Department of Physician Assistant Studies, 2012; M.S., University of New England, 2002.
- KOUTROVELIS, Aristides**, Co-Medical Director, Department of Respiratory Care, 2005; M.D., St. Georges University School of Medicine, 1993.
- LAWRENCE, Laura S.**, Assistant Professor, Department of Physician Assistant Studies, 2010; MPAS, University of Texas Medical Branch at Galveston, 2006.
- LOFTIN, Camille T.**, Assistant Professor, Department of Physician Assistant Studies, 2009; MPAS., University of Nebraska Medical Center, 2010.
- LOUIS, Jane**, Adjunct Instructor, Department of Nutrition & Metabolism, 2011; B.S; University of Houston, 1973.
- * **MARION, Rodger D.**, Professor Emeritus, Division of Humanities and Basic Sciences, 2007; Ph.D., University of Kentucky, 1978.
- MASEL, Brent E.**, Clinical Assistant Professor, Department of Occupational Therapy, 1999; M.D., Strinch Loyola Medical School, 1974.
- MCELYEA, Denise**, Clinical Instructor, Department of Respiratory Care, 2004; MSM, RRT, Argosy University, 2012.
- MCGAUGH, Janna M.**, Assistant Professor, Department of Physical Therapy, 2005; ScD, Texas Tech University, 2006.

- MENDIETA, Bertha P.**, Clinical Instructor, Department of Physician Assistant Studies, 1998; B.S., University of Texas Medical Branch at Galveston, 1984.
- MESSENGER, Christopher**, Adjunct Instructor, Department of Nutrition & Metabolism, 2012; M.S.; University of Texas Medical Branch, 2009.
- MILLER, Brian**, Associate Professor, Department of Neuroscience & Cell Biology; Ph.D., University of Texas Medical Branch at Galveston, 1983.
- MLCAK, Ronald P.**, Associate Professor, Department of Respiratory Care, 1994; Ph.D., University of Berkley, 2001.
- MORRIS, Ruth E.**, Professor Emeritus, Department of Clinical Laboratory Sciences, 1990; M.Ed., Texas A&M University at Prairie View, 1973.
- * **MOSSBERG, Kurt A.**, Professor, Department of Physical Therapy, 1992; Ph.D., University of Texas Health Science Center at Houston, 1987.
- MYERS, Linda L.**, Clinical Assistant Professor, Department of Clinical Laboratory Sciences, 2011; M.Ed., University of Houston/Baylor College of Medicine, 1978.
- NASTARS, Daneen**, Assistant Professor, Department of Respiratory Care, 2009; MS, Texas Tech University, 2013.
- * **NIEBUHR, Bruce R.**, Associate Professor, Department of Physician Assistant Studies, 1978; Ph.D., Southern Illinois University, 1976.
- NILSESTUEN, Jon O.**, Professor and Chair, Department of Respiratory Care; 1993; Ph.D., Medical College of Wisconsin, 1980.
- * **OTTENBACHER, Kenneth J.**, Professor & Director, Division of Rehabilitation Sciences, 2001; Senior Associate Dean for Graduate Education and Research, School of Health Professions, 1995; Ph.D., University of Missouri, 1982.
- * **PADDON-JONES, Doug**, Professor, Department of Nutrition & Metabolism, 2011; Ph.D., The University of Queensland, Australia, 1999.
- PARTIN, Nina B.**, Clinical Assistant Professor, Department of Physician Assistant Studies 2007; M.Ed., Stephen F. Austin State University, 1980.
- PATEL, Nikesh**, Adjunct Assistant Professor, Department of Physical Therapy, 2008; DPT, Arizona School of Health Sciences, 2005.
- PATTERSON, Tara S.**, Assistant Professor, Department of Occupational Therapy, 1987; Ph.D., University of Florida, 2009.
- PELOQUIN, Suzanne M.**, Professor Emeritus, Department of Occupational Therapy, 1987; Ph.D., University of Texas Medical Branch at Galveston, 1991.
- * **PROTAS, Elizabeth J.**, Vice President and Dean, School of Health Professions; Ph.D., State University of New York-Buffalo, 1980.
- PROUGH, Donald**, Professor, Department of Respiratory Care, 1997; Professor and Chair, Department of Anesthesiology, 1992; M.D., Milton S. Hershey Medical Center, 1973.
- RAHR, Richard R.**, Professor Emeritus, Department of Physician Assistant Studies, 2013; Ed.D., University of Houston–Clear Lake, 1987.
- RASSMUSSEN, Blake B.**, Chair and Professor, Department of Nutrition & Metabolism, 2011; Ph.D., Brigham Young University, 1997.

- RAY, Susan**, Clinical Instructor, Department of Clinical Laboratory Sciences, 2004; M.S., University of Texas of the Permian Basin, 1995.
- REICH, Miles**, Associate Professor Emeritus, Department of Physical Therapy and Division of Humanities and Basic Sciences, 1994; PT, University of Cincinnati, 1974.
- REISTETTER, Timothy A.**, Associate Professor, Division of Rehabilitation Sciences, 2008; Ph.D., Texas Woman's University, 2004.
- ROJAS, Jose**, Associate Professor, Department of Respiratory Care, 2007; Ph.D., RRT, Texas Tech University Health Science Center, 2000.
- ROWLAND, Jennifer R.**, Associate Professor, Department of Physical Therapy, 2012; Ph.D., University of Kansas, 2004.
- RYAN, Bonnie B.**, Clinical Instructor, Department of Physician Assistant Studies, 2010; B.S., University of Texas Medical Branch at Galveston, 2002.
- SALAZAR, Jose H.**, Clinical Assistant Professor, Department of Clinical Laboratory Sciences, 2009; M.S. University of Houston-Clear Lake, 2009.
- SEALE, Jill**, Assistant Professor, Department of Physical Therapy, 2008; M.P.T., University of Texas Medical Branch at Galveston, 1996.
- SERGHIU, Michael**, Clinical Instructor, Department of Occupational Therapy, 2005; University of Kansas, 1989.
- SHELTON, Steven R.**, Interim Chair and Associate Professor, Department of Physician Assistant Studies, 1978; M.B.A., University of Houston–Clear Lake, 1983.
- SLUSHER, Barbara A.**, Assistant Professor, Department of Physician Assistant Studies, 2013; M.S.W., University of Maryland, 1991.
- STEPHENSON, Karen S.**, Associate Professor, Department of Physician Assistant Studies, 1981; M.P.H., School of Public Health, University of Texas Health Science Center, 2011.
- STEVENSON, Marla**, Clinical Instructor, Department of Clinical Laboratory Sciences, 2010; B.S., Union College, 1967.
- ST. JOHN, E. Camellia**, Professor Emeritus, Department of Clinical Laboratory Sciences, 1973; M.Ed., Texas A&M University at Prairie View, 1974.
- STONE, Gretchen**, Associate Professor Emeritus, Department of Occupational Therapy, 2005; Ph.D., University of Texas at Austin, 1991.
- THIERRY Jr., Leonce H.**, Clinical Assistant Professor, Department of Clinical Laboratory Sciences, 2001; M.S. University of Texas Medical Branch at Galveston, 2001.
- TIPPLE, C. Elizabeth**, Assistant Professor Emeritus, Department of Occupational Therapy, 1981; B.S., Tufts University–Boston School of Occupational Therapy, 1942.
- TOWNSEND Jr., Courtney M.**, Professor, Department of Physician Assistant Studies, 1989; M.D., University of Texas Medical Branch at Galveston, 1969.
- TSENG STULTZ, Eileen**, Adjunct Assistant Professor, Department of Physical Therapy, 2013; DPT, University of Indianapolis, 2008.
- UTSEY, Carolyn J.**, Associate Professor and Chair, Department of Physical Therapy, 1990; PhD, University of Houston, 2006.
- VINCENT, Janet**, Clinical Instructor, Department of Clinical Laboratory Sciences, 1988; M.S., University of Houston-Clear Lake, 1986.

- WEST, Holly A.**, Assistant Professor, Department of Physician Assistant Studies, 2008; MPAS, University of Texas Medical Branch at Galveston, 2005.
- WESTERMAN, Cara**, Assistant Professor, Department of Occupational Therapy, 2011; MOT, University of Texas Medical Branch at Galveston, 2010.
- WILD, Dana**, Assistant Professor, Department of Physical Therapy, 2001; Ph.D., University of Texas Medical Branch at Galveston, 2009.
- WILLIAMS)-BOUYER, Natalie**, Adjunct Associate Professor, Department of Clinical Laboratory Sciences, 2013; Ph.D., Meharry Medical College, 1997.
- WITTJEN, Susan McPhail**, Adjunct Assistant Professor, Department of Physical Therapy, 1992; Ph.D., Rice University, 1999.
- ZHANG, Jianli**, Clinical Assistant Professor, Department of Laboratory Sciences, 2010; M.D., University of Shihezi, Shihezi Medical College, 1982.(Inside Covers)

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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

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Galveston, TX 77555-1029
(409) 772-1181

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Galveston, TX 77555-0133
(409) 772-2671

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
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