MASTER OF PHYSICIAN ASSISTANT STUDIES

The mission of the Department of Physician Assistant Studies is to prepare outstanding physician assistants to recognize and treat acute and chronic illness and promote health. The Department of Physician Assistant Studies makes lives better by improving the healthcare, health outcomes and well-being of patients and their families through education, practice, service and research.

The vision of the Department of Physician Assistant Studies is to be a recognized leader in health care education, scholarship, and service. This vision includes the education and training of competent and caring health care providers who will meet the needs of society, faculty, staff, and student service to the community and region; and scholarship that will impact, advance, and add to the knowledge of humanity and health.

Students who successfully complete the program receive a Master of Physician Assistant Studies (MPAS) degree. Graduates are eligible to sit for the Physician Assistant National Certifying Exam (PANCE) (http://www.nccpa.net/BecomingCertified/) given by the National Commission for Certification of Physician Assistants. Passing the PANCE is required for licensure in all states.

The UT Health San Antonio Physician Assistant Studies program has been approved to expand the reach of this educational program offering: a PA program in Laredo, Texas as a distance education location. Programmatic approval has been granted from the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) and the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC).

The Master of Physician Assistant Studies program is accredited by the Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) (http://www.arc-pa.org/), 12000 Findley Road, Suite 150, Johns Creek, GA, 30097; phone (770) 476-1224, fax (770) 476-1738.

Admissions Requirements

Two separate applications, (1) the CASPA application and (2) the PAS Supplemental Application, are required. Both must be submitted through the Central Application Service for Physician Assistants (https://caspa.liaisoncas.com/applicant-ux/#/login) (CASPA) by the application deadline.

- The CASPA application, the PAS Supplemental Application, official transcripts, two reference letters, all other supporting documents and fees must be submitted and your CASPA status must be listed as completed (https://help.liaisonedu.com/CASPA_Applicant_Help_Center/Starting_Your_CASPA_Application/Getting_Started_with_Your_CASPA_Application/3_CASPA_Participating_Programs_and_Eligibility/) by the specified CASPA application deadline.
- Prior-year applicants must submit a new application and are not guaranteed an interview or admission into the program. Questions about re-application should be directed to the School of Health Professions' Office of Admissions and Special Programs (https://www.uthscsa.edu/academics/health-professions/) and/or CASPA.

Acuity Insights Assessments – Comprehensive Admissions Assessments

All applicants are required to complete the Casper assessment as part of their application for the 2023/2024 admissions cycle. **Completed assessment results must be received by our program at UT Health San Antonio before the application deadline**.

To complete this assessment visit AcuityInsights.app (https://acuityinsights.app/) to create an account and register to complete the following assessments:

- Casper (https://acuityinsights.app/casper/): 90-110 minute online, open-response situational judgment test

*Note: Duet is not required to apply to our program.

Admission requirements for the Master of Physician Assistant Studies program include:

- Bachelor's degree from an accredited college or university
- Completion of the CASPA application
- Completion of the supplemental application
- Payment of the non-refundable Supplemental application fee
- Completion of Altus Suite online assessments (Casper and Snapshot)
- Meet the minimum technical standards (https://uthscsa.edu/health-professions/programs/physician-assistant-studies-ms/admissions/), with or without reasonable accommodations
- Minimum overall GPA of 3.0 on a 4.0 scale
- Minimum science GPA of 3.0 on a 4.0 scale
- A grade of **C** or better in the individual prerequisite classes
- All required prerequisite courses **MUST BE** completed within ten years of class matriculation and completed by the specified CASPA application deadline (**Note:** no prerequisites can be in progress after the deadline date):
  - Human Anatomy and Physiology I and II with labs, 8 semester credit hours*
    - **NOTE:** Human Anatomy with Lab (4 SCH) and Human Physiology (4 SCH) sequence also meets the Anatomy and Physiology requirements. Neither Human Anatomy & Physiology I nor II alone satisfies the Human Anatomy and Physiology requirements.
  - General Chemistry I and II with labs, 8 semester credit hours*
  - Organic Chemistry I with lab, 4 semester credit hours*
  - Microbiology with lab, 4 semester credit hours*
  - Genetics, 3 semester credit hours
  - Statistics-any discipline-specific course is acceptable, 3 semester credit hours
  - Psychology (general, introductory, abnormal or developmental), 3 semester credit hours

*All required science courses **MUST BE** for science majors and include a laboratory component.

No Credit by Exam or AP credit can be used to fulfill any prerequisite coursework.

No online courses will be accepted to fulfill science prerequisites.

Check course equivalencies for Texas institutions using the Texas Common Course Numbering System (TCCNS) (https://www.tccns.org/)

NOTE: Please refer to the Future Prerequisite/Admission (https://www.uthscsa.edu/academics/health-professions/future-

prerequisitesadmission-changes/) Changes for current prerequisite requirement accommodations for those affected by COVID-19 guidelines

- Submission of the Graduate Record Examination (GRE) (http://www.ets.org/gre/) official scores up to five years old. There is no minimum score requirement.
- Two reference letters - sent directly to CASPA
- Any additional materials required by CASPA
- Submission of official transcripts from each individual college/university currently or previously attended - must be mailed directly to CASPA only (Do not send transcripts to the health science center)

Applicants who are enrolled in college courses at the time of application should submit an official transcript showing courses in progress. An updated transcript must be submitted upon completion of the courses. Note: Transfer credits indicated on another school's transcript are not accepted in lieu of submitting the original institution record for that coursework.

International applicants only: English Proficiency Requirement

- Applicants from countries where English is not the official language are required to submit scores on the Test of English as a Foreign Language (TOEFL, the International English Language Testing System (IELTS) or Duolingo English Test. The minimum required scores are listed below:
  - TOEFL 84
  - IELTS 7.0
  - Duolingo 115
- TOEFL scores may be waived for international students from countries where English is the official language spoken or for noncitizens of the United States earning a bachelor's degree or higher in the United States or other countries where English is the official language. Please refer to the School of Health Professions section of the University Catalog (http://catalog.uthscsa.edu/schoolofhealthprofessions/) for additional information.
- Transcripts from institutions outside the United States must be submitted in the original language and must be accompanied by a NACES Members evaluation (http://www.naces.org/) agency English translation for each course.

NOTE: Information received by university officials regarding individual applicants outside of the formal admissions process or CASPA system will not be considered in the admissions review or selection process.

Admissions Process

After reviewing eligible applications, the Admissions Committee invites applicants to visit the campus for in-person multiple mini interviews. After the interviews, the Admissions Committee conducts a final review and will notify candidates of its final decisions.

Admission and enrollment practices that favor specified individuals or groups

As part of the health science center PA program's holistic process, all applicants are evaluated based on multiple performances and experience-based criteria; these include overall GPA, science GPA, hours of community service, hours of health care experience, hours of PA shadowing, history of military service or an affiliation with a medically underserved region. While none of these items, individually or in combination, guarantee selection, they have the capacity to augment the applicant's overall submission.

Campus Location: The University of Texas Health Science Center at San Antonio also offers its nationally recognized Master of Physician Assistant Studies (MPAS) program at The University of Texas Education and Research Center at Laredo in Laredo, Texas. All applicants are asked to select their campus location preference upon submission of their CASPA application as either "San Antonio", "Laredo", or "either campus". Priority for the Laredo campus will be given to selected applicants from Laredo, the surrounding Webb County area, and those who choose the Laredo campus in CASPA. The regional campus provides a unique learning opportunity for individuals demonstrating a predisposition toward aiding and supporting a medically underserved population. More information can be found about the Laredo Extension Program (https://www.uthscsa.edu/academics/health-professions/programs/physician-assistant-studies-ms/laredo-pa-extension-program/) on the website.

Advanced placement, transfer credit, and credit for experiential learning

There is no advanced placement for academic work completed prior to matriculation or for any type of work or healthcare experience. No prerequisite coursework may be used for credit or substitution for a PA curriculum course.

Transfer of Credit: Individuals are not allowed to transfer credits from other Physician Assistant programs. Such prior study will not be considered as fulfilling any requirement of the UTHSCSA PA program.

Credit for Experiential Learning: No credit for experiential learning will be granted for a course in the curriculum. Credit for experiential learning will not be awarded for any supervised clinical practice rotation.

Credit by Examination: No course may be credited by examination.

Technical Standards

Candidates for the UTHSCSA PA program must be able to meet these minimum technical standards (http://www.uthscsa.edu/sites/default/files/TECHNICAL%20STANDARDS%20FOR%20PHYSICIAN%20ASSISTANT%20STUDENTS%202018.pdf) with or without reasonable accommodation.

Suggestions for overall CASPA submission improvement

- Health-related experience and hands-on patient contact experience
- Shadow hours (PA, MD, DO, and NP)
- Community service
- Completion of Basic Life Support and Advanced Cardiac Life Support courses
- Achieving a grade of B or better in all prerequisite coursework

The above recommendations are application enhancing. Completion does not guarantee an interview or selection into the UTHSCSA PA Program.

Future Prerequisite/Admission Changes

For those individuals planning on applying for the next application cycle, it is recommended that you check the **UTHSCSA Physician Assistant Studies Future Prerequisites/Admission web page (https://www.uthscsa.edu/academics/health-professions/future-prerequisitesadmission-changes/)** for any changes.

Applicant open houses are typically offered during the spring semester. Applicants are encouraged to seek advisement from their college counselors or the Health Professions' Office of Admissions and

Special Programs (https://www.uthscsa.edu/academics/health-professions/) at (866) 802-6288 (toll-free) or (210) 567-6220.

Degree Requirements

The Master of Physician Assistant Studies (MPAS) program is an intense didactic and clinical program that consists of 126 semester credit hours. The curriculum is designed to prepare outstanding physician assistants to recognize and treat acute and chronic illness and promote health. The program begins in the summer semester and runs continuously for 30 months. The didactic component of the curriculum consists of classroom, laboratory, and clinical preparation. Didactic instruction is designed to prepare the student to successfully complete clinical rotations, and ultimately, for practice as a physician assistant.

The MPAS program is based on traditional semesters. The final months of the program include supervised clinical practice experiences (clinical rotations) and occur in sites throughout Texas. **Students must be prepared to travel outside the San Antonio area and assume the cost of travel and any housing associated with all rotations.**

- Rotations are full-time clinical experiences (minimum of 40+ hours per week).
- During clinical rotations, the students will have an opportunity to participate in an area of concentration of their choice.
- A pass-fail summative evaluation is administered during the final four months of the program. Students must pass the summative examination to qualify for graduation.
- All students are required to complete a research project prior to graduation.
- There are a number of interprofessional and community volunteer/service-learning opportunities

Grading and Advancement

Grading standards, symbols, grade point scales, GPA determinations, and other considerations regarding the quality of work of students are the prerogative of the faculty of the program, as are issues of promotion and advancement.

The standing of students in their work is expressed by the following grades:

A = Excellent

B = Above Average

C = Average

F = Failure

P = Pass

I = Incomplete

All coursework in the PA Studies Program that receives a letter grade must be passed with either a grade of "C" or better. In courses that are Pass/Fail, the student must receive a "P".

If a PA curriculum course is offered by another department and that department allows a grade of “D”, the PAS Department views that grade as not meeting the “C” requirement. A grade of “D” will be treated in the same manner as a grade of “F”.

To advance each semester, **unconditionally**, students must meet all of the following:

1. Pass all courses with a minimum grade of "C" or "P"
2. Maintain an **overall (cumulative) GPA of 2.75** or greater
3. Meet competencies as outlined by program-established Entrustable Professional Activities (EPAs) and Milestones
4. Have faculty approval for advancement based on:
    - Professionalism
    - Academic performance
    - Attitude
    - Effort
    - Demeanor

To advance unconditionally from the didactic phase to the Supervised Clinical Practice Experience (SCPE) year, a student must meet all the above requirements and also be BLS and ACLS certified (students will be provided the opportunity to complete BLS and ACLS during their didactic training).

To unconditionally advance each SCPE semester by the academic calendar, a student must meet all of the above requirements, pass each SCPE course, achieve a passing score on each preceptor evaluation, and attain the required Milestones.

Graduation Requirements

Masters degrees are awarded by the Board of Regents following the student’s completion of the prescribed course of study, the recommendation of the faculty, and the certification by the Dean of the School of Health Professions and the President of the Health Science Center that the candidate has fulfilled all requirements for the degree and certificate. Graduation from the Department of Physician Assistant Studies professional entry-level graduate physician assistant program requires students to have an overall GPA of 2.75/4.0 scale.

Degrees are conferred only on official dates publicly announced. The Master of Physician Assistant Studies (MPAS) will be conferred upon those students who have successfully completed all program requirements (including successful completion of the Summative evaluation).

It is the responsibility of the student to apply for graduation online using the student portal in the semester prior to anticipated graduation or during registration for the final year. Notices are sent from the Office of the University Registrar.

As in any educational setting, the student has the primary responsibility for acquiring knowledge. In offering courses of study, the health science center and Department of Physician Assistant Studies in no way guarantees that any student accepted for enrollment will achieve any given level of academic or professional accomplishment. This includes certification and licensure.

A student must complete all requirements in effect at the time of their enrollment, provided there has been no break in that enrollment. Policies are reviewed and updated annually. Students are responsible for reading and abiding by new policies upon publication. The Program Director/Chair and the Dean of the School must approve any changes in a degree plan.

Any academic or professional conduct action (e.g. academic probation) received while in the program will be reported to credentialing agencies or licensing boards. Students who complete training after the expected class graduation date may be required to provide justification to the Texas Medical Board (TMB), or other state licensing board, prior to licensure. License to practice as a physician assistant in any state is solely at the discretion of the state licensing board.

Sample Plan of Study

First Year		
Summer		**Credit Hours**
PHAS 5006	Clinical Physiology	4
PHAS 5007	Pathogenesis of Human Disease	3
PHAS 5011	Principles of Ethics and Professionalism	1
PHAS 5044	Clinical Anatomy	5
Fall		
PHAS 6010	Pharmacology 1	3
PHAS 5001	Patient Evaluation 1	2
PHAS 6131	Clinical Skills 1	0.5
PHAS 6009	Laboratory Medicine	3
PHAS 6134	Pulmonology	2
PHAS 6013	Clinical Research and Evidence Based Medicine	3
PHAS 6133	Cardiology	3.5
PHAS 6136	Otolaryngology	1.5
PHAS 5003	Behavioral Medicine	1
Spring		
PHAS 6138	Neurology	1.5
PHAS 6004	Preventative Medicine and Public Health	3.5
PHAS 6121	Gastroenterology	2
PHAS 6122	Orthopedics-Rheumatology	2
PHAS 5201	Patient Evaluation 2	2
PHAS 6137	Clinical Skills 2	1
PHAS 6014	Pharmacology 2	3
PHAS 6135	Dermatology	1
PHAS 6123	Infectious Disease	1
PHAS 6120	Endocrinology	1.5
Second Year		
Summer		
PHAS 5000	Physician Assistant Policy and Practice	2
PHAS 5301	Patient Evaluation 3	2
PHAS 6132	Clinical Skills 3	1
PHAS 6130	Renal-Genitourinary	2
PHAS 6124	Women's Health	1.5
PHAS 6128	Pediatrics	1
PHAS 6127	Gerontology	1
PHAS 6126	General Surgery	1.5
PHAS 6125	Emergency Medicine	1.5
EMSP 6135	Advanced Cardiac Life Support	1
PHAS 6129	Hematology-Oncology	0.5
Fall		
PHAS 6101	Internal Medicine Supervised Clinical Practice Experience	4
PHAS 6102	Family Medicine Supervised Clinical Practice Experience	4
PHAS 6103	Internal/Family Medicine Supervised Clinical Practice Experience	4
PHAS 6104	Pediatrics Supervised Clinical Practice Experience 4	4
Spring		
PHAS 6105	Emergency Medicine Supervised Clinical Practice Experience	4
PHAS 6106	Inpatient Medicine Supervised Clinical Practice Experience	4
PHAS 6107	Women's Health Supervised Clinical Practice Experience	4
PHAS 6108	Surgery Supervised Clinical Practice Experience	4
Third Year		
Summer		
PHAS 6109	Behavioral Medicine Supervised Clinical Practice Experience	4
PHAS 6110	Supervised Clinical Research Experience	4
PHAS 6111	Elective 1 Supervised Clinical Practice Experience	4
Fall		
PHAS 6112	Elective 2 Supervised Clinical Practice Experience	4
PHAS 6113	Elective 3 Supervised Clinical Practice Experience	4
PHAS 6114	Elective 4 Supervised Clinical Practice Experience	4
PHAS 6115	Elective 5 Supervised Clinical Practice Experience	4
	Total Credit Hours:	**126.0**

Objectives/Program Outcomes

Mission

The Mission of the Department of Physician Assistant Studies at The University of Texas Health Science Center at San Antonio is to prepare outstanding physician assistants to recognize and treat acute and chronic illness and promote health. The Department of Physician Assistant Studies makes lives better by improving the health care, health outcomes and the well being of patients and their families through education, practice, service and research.

Vision

By 2022, the Department of Physician Assistant Studies at The University of Texas Health Science Center San Antonio, will be recognized as a world class Physician Assistant program and be amongst the best programs in the United States. We will lead the nation in Physician Assistant education, scholarship and service.

Goals

- Attract a highly qualified and diverse student body: We focus on educating a diverse student body to become excellent health care providers. This table (https://uthscsa.edu/health-professions/about/departments/physician-assistant-studies/mission-vision-goals/) demonstrates our continued commitment to diversity and

reflects the varied and wide-ranging backgrounds and experiences of our students.

- Sustain a high first time Physician Assistant National Certification Exam pass rate: Over the past three years, our students' Physician Assistant National Certifying Examination (PANCE) pass rate has been 100 percent for first-time exam takers. Over the past five years, our first time pass rate has exceeded the national average.
- Cultivate graduates who are competitively marketable as health care providers: Over the past five years, 92.4 percent of our graduates were licensed to practice within six months of graduation. In addition, 100 percent of these licensed providers are currently practicing medicine.

More detailed information about the mission, vision and goals for Physician Assistant Studies program is available (https://uthscsa.edu/health-professions/about/departments/physician-assistant-studies/mission-vision-goals/).

Program Policies and Information

Auditing Courses

Students may be required to audit previously attempted courses as a requirement of remediation. Course instructors, academic or clinical coordinators, department committees, or the department chair set standards of performance.

Computer Requirement

Students are required to purchase a laptop computer from the Health Science Center Computer Store (http://ims.uthscsa.edu/computer_networking/computer_store.aspx) upon matriculation. The cost of the purchase is calculated as a cost of attendance and is included in determination of financial aid eligibility.

Program Costs

In addition to required tuition and fees (http://www.uthscsa.edu/academics/health-professions/physician-assistant-studies-master-physician-assistant-studies-tuition/), there are costs for digital and hardcopy textbooks, scrubs, and equipment. The full-time clinical fieldwork experiences included in the curriculum may require that students relocate outside of San Antonio for the duration of the rotations. SCPE expenses will vary according to individual arrangements depending on the cost of travel, temporary housing, maintenance of local accommodations, etc. Students are encouraged to budget for major expenditures that could be associated with these assignments. Detailed information about program costs can be found on the Department of Physician Assistant Studies website.

Clinical Preceptors and Sites

The clinical practicum is a vital part of the Physician Assistant student's education. Our program retains — and continually develops — a sizeable pool of potential sites and preceptors in all disciplines throughout Texas. Prospective and enrolled students are not required or allowed to initiate any contact, provide, solicit, or recruit clinical preceptors or clinical sites. Students may suggest clinical sites or preceptors to the clinical coordinators who will then contact, evaluate and approve for educational program suitability. Students are required to travel during the clinical phase of training.

Background Checks and Drug Screening

Background checks are required prior to matriculation. Any events that occur after the initial background check that might affect the student's status in the program must be reported to the department immediately. Students are required to comply with additional requests for background checks at any time during their course of study.

Students are responsible for the cost of any/all required background checks.

Some medical facilities require students that rotate in their facility to undergo drug screening prior to being awarded temporary privileges. It is the student's responsibility to comply with this screening. It is the student's responsibility to arrange for the screening in a timely fashion so as not to impact their rotation duties.

The student is responsible for any applicable fees associated with drug screening.

Working and Employment While Enrolled as a PA Student

Students are encouraged to devote the maximum time possible to their studies while enrolled in the Physician Assistant Studies Program. The curriculum is intense, demanding, time consuming, and requires long hours of class and study time. Any activity that takes time away from a student's efforts within the program is discouraged.

Policy on **Student Employment while Enrolled in the PA Program (https://www.uthscsa.edu/sites/default/files/STUDENT%20EMPLOYMENT%20WHILE%20ENROLLED%20IN%20THE%20PA%20PROGRAM.pdf)**

Courses

CLSC 3000. Introduction to Clinical Laboratory Sciences. 2 Credit Hours.
This Web-based course is an overview of the clinical laboratory profession. There are three general areas of study. The first is information on the profession including history, educational requirements, job responsibilities and opportunities, as well as the structure and role of the clinical laboratory in medicine. The second is an introduction to medical terminology using an overview of the body systems. Examples of the use of laboratory tests to detect pathologies in these systems are included. The third area is quality assurance. Enrollment is open to laboratory science students at other universities both in state and out of state. Texas residents and non-residents living in Texas pay applicable tuition and fees of the Health Science Center.

CLSC 3001. Phlebotomy Practicum. 0.5 Credit Hours.
Under the direction and supervision of a clinical instructor in a hospital or outpatient facility, the student will be given the opportunity to gain experience and expertise in phlebotomy procedures. This practicum may be taken anytime after the student has been accepted into the program. Positions will be based on the availability of sites. Students must arrange this practicum with the education coordinator before enrolling. This practicum must be completed before beginning clinical practicums in the senior year.

CLSC 3020. Special Topics in Clinical Immunology. 1-2 Credit Hours.
This course is designed for students who have completed a course that included clinical immunology/serology at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected immunology/serology topics that may include theory and/or practice. The topics vary according to student's previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered. Prerequisites: proficiency exam, permission from course director.

CLSC 3022. Special Topics in Body Fluids. 1-2 Credit Hours.
This course is designed for students who have completed a course that included urinalysis and other body fluids at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected body fluids topics that may include theory and/or practice. The topics vary according to student's previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered. A proficiency exam and permission from course director are required.

CLSC 3035. Special Topics in Medical Microbiology. 1-5 Credit Hours.
This course is designed for students who have completed a medical microbiology course at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected medical microbiology topics that may include theory and/or practice. The topics vary according to student's previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered. Proficiency exam and permission from course director are required.

CLSC 3063. Special Topics in Immunohematology. 1-4 Credit Hours.
This course is designed for students who have completed an immunohematology course at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected immunohematology topics which may include theory and/or practice. The topics vary according to student's previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered. A proficiency exam and permission from course director are required.

CLSC 3070. Diagnostic Immunology Lecture. 1.5 Credit Hour.
This didactic course presents the principles and applications of immunology as it pertains to diagnosis of disease states. The course will cover methods to detect infectious as well as autoimmune diseases using immunologic technologies such as immunofluorescence, enzyme immunoassays, and flow cytometry. Correlation of the laboratory results with the disease states will be emphasized. Clinical applications of flow cytometry, histocompatibility testing, serology, and immunochemistry assays will be presented. Immmunology is required.

CLSC 3072. Molecular and Immunological Diagnosis. 4 Credit Hours.
This didactic course presents the principles of molecular biology and an in-depth review of immunology. Molecular and immunological techniques such as PCR, western blotting, flow cytometry, and immunochemistry assays will be discussed with an emphasis on the diagnosis of disease states. Clinical applications in forensics, paternity testing, diagnosis of infectious disease states, inherited conditions and neoplasms will be presented.

CLSC 3073. Molecular and Immunologic Diagnostic Lab. 1 Credit Hour.
This laboratory course will offer the opportunity for students to perform both molecular and immunologic techniques. Students will perform molecular diagnostic techniques such as PCR and gel electrophoresis that are used in the investigation of inherited conditions and neoplasms and become familiar with potential sources of error. Students will also perform immunologic procedures commonly used in the diagnosis of infectious and autoimmune diseases. Principles and applications of quality control procedures are practiced. Corequisites: CLSC 3072.

CLSC 3083. Special Topics in Clinical Chemistry. 1-4 Credit Hours.
This course is designed for students who have completed a clinical chemistry course at an accredited CLT/MLT program. The course provides the student the opportunity to gain an understanding of selected clinical chemistry topics that may include theory and/or practice. The topics vary according to student's previous experience and education. Credit hours are variable. Hours will be assigned based on the topics covered. A proficiency exam and permission from course director are required.

CLSC 4020. Issues in Health Care. 1-3.5 Credit Hours.
This course is a study of selected topics in health care. Consent of instructor is required.

CLSC 4035. Introduction to Molecular Diagnostics. 1.5 Credit Hour.
This course is a study of recombinant DNA concepts and technology. Applications of this technology in diagnosis and therapy of disease is emphasized. The course is a combination of lecture and laboratory. Prerequisites include genetics and junior CLSC coursework. One section of this course is in a distance-learning format offered via the Web. Students wanting to enroll in the Web section must receive permission from the instructor.

CLSC 4038. Microbiology Categorical Practicum. 10 Credit Hours.
Under the direction and supervision of a clinical instructor in the clinical microbiology lab, the student is introduced to the functional roles of the clinical microbiology laboratory. Students will have the opportunity to develop proficiency in the areas of bacteriology, parasitology, mycology, mycobacteriology, immunology, and virology. A period of time will be devoted to allow the student to gain experience in performing microbiological studies in each of these areas.

CLSC 4040. Human Genetics. 2 Credit Hours.
An advanced course which provides the student an opportunity to study the cell cycle, oogenesis, spermatogenesis, Mendelian inheritance, polygenic inheritance, population genetics, medical genetics, clinical cytogenetics, and basic molecular techniques. The course is self-paced requiring approximately 2 hours per week. Prerequisites: Admission to Cytogenetics Program or consent of instructor.

CLSC 4041. Clinical Cytogenetics. 4 Credit Hours.
This is an advanced lecture course covering theories, concepts, and techniques applicable to the practice of clinical cytogenetics. Topics include mitotic and meiotic cell cycles with emphasis on errors and manipulations, chromosome structure, mechanisms of chromosome abnormality formation, cytogenetics syndromes, inheritance patterns, cancer genetics, instability syndromes, clinical correlation of chromosome abnormalities, microscopy, computer imaging, cell culture, analysis, ISCN, pedigree construction, and other current genetic issues. Prerequisites: CLSC 4040 or consent of instructor.

CLSC 4042. Hematology for the Geneticist. 1 Credit Hour.
This is an advanced study of the normal production, maturation and function of erythrocytes, leukocytes and platelets. The pathogenic mechanisms as well as the peripheral blood and bone marrow findings in relation to leukocyte disorders will be covered. Study of the correlation of cytogenetic abnormalities to specific disorders will be emphasized. Corequisite: CLSC 4041 or consent of the instructor.

CLSC 4043. Cytogenetics Techniques. 4 Credit Hours.
This is an advanced laboratory course designed to cover all aspects of cytogenetic laboratory practice including specimen evaluation, culture initiation, culture maintenance, harvesting, slidemaking, staining and banding techniques (conventional, GTG, QFQ, CBG, AgNOR, DA/DAPI, SCE, and FISH), banding pattern recognition, microscopic analysis, computer imaging, computer-assisted karyotyping and ISCN. Instrumentation, solution preparation, laboratory math, quality control, and regulatory issues will be emphasized. Prerequisites: CLSC 4041 or consent of the instructor.

CLSC 4044. Current Topics in Genetics. 1 Credit Hour.
This is an advanced seminar course that provides the student an opportunity to acquire knowledge of the latest developments in the field of human genetics with emphasis on the structure, behavior, and function of chromosomes as related to human diseases. Discussion sessions follow seminar presentation of critical literature reviews of a specific topic, current journal articles, or of individual research. Presenters will be drawn from the cytogenetics community of the Health Science Center and surrounding area. Each student is required to make a short presentation on a topic of interest selected with the aid of the coordinator. Prerequisites: CLSC 4041 or concurrent enrollment.

CLSC 4045. Clinical Cytogenetics Laboratory 1. 5 Credit Hours.
Under the supervision and direction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to extend their knowledge of principles and techniques of clinical cytogenetics which were presented in the didactic portion of the curriculum. The student will have the opportunity to gain experience with a wide variety of procedures which include culturing, harvesting, slide preparation, staining, and analyzing metaphases, with emphasis on the processing of peripheral blood samples. Clinical correlations of the chromosomal findings are included. Grades are based on laboratory performance and results achieved on written and/or practical examinations conducted at the particular clinical affiliate to which the student is assigned. Prerequisites: CLSC 4041, CLSC 4043, and CLSC 4042.

CLSC 4046. Clinical Cytogenetics Laboratory 2. 5 Credit Hours.
Under the supervision and direction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to extend their knowledge of principles and techniques of clinical cytogenetics which were presented in the didactic portion of the curriculum. The student will have the opportunity to gain experience with a wide variety of procedures which include culturing, harvesting, slide preparation, staining, and analyzing metaphases, with emphasis on the processing of amniotic fluid and chorionic villi samples. Clinical correlations of the chromosomal findings are included. Grades are based on laboratory performance and results achieved on written and/or practical examinations conducted at the particular clinical affiliate to which the student is assigned. Prerequisites: CLSC 4045.

CLSC 4047. Clinical Cytogenetics Laboratory 3. 5 Credit Hours.
Under the supervision and direction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to extend their knowledge of principles and techniques of clinical cytogenetics that were presented in the didactic portion of the curriculum. The student will have the opportunity to gain experience with a wide variety of procedures which include culturing, harvesting, slide preparation, staining, and analyzing metaphases, with emphasis on the processing of bone marrow and solid tumor samples. Clinical correlations of the chromosomal findings are included. Grades are based on laboratory performance and results achieved on written and/or practical examinations conducted at the particular clinical affiliate to which the student is assigned. Prerequisites: CLSC 4046.

CLSC 4048. Clinical Cytogenetics Laboratory 4. 5 Credit Hours.
Under the supervision and direction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to extend their knowledge of principles and techniques of clinical cytogenetics that were presented in the didactic portion of the curriculum. The student will have the opportunity to gain experience with a wide variety of procedures which include culturing, harvesting, slide preparation, staining, and analyzing metaphases, with emphasis on quality control, applications of FISH, molecular techniques and computer imaging. Clinical correlations of the chromosomal findings are included. Grades are based on laboratory performance and results achieved on written and/or practical examinations conducted at the particular clinical affiliate to which the student is assigned. Prerequisites: CLSC 4047.

CLSC 4049. Cytogenetics Lab Practices. 1.5 Credit Hour.
An exploration of problem-solving processes and strategies for resolving difficult cases is the focus of this course. Students will be presented with the opportunity to integrate previously presented topics with experiences gained from clinical practicums. A thorough review of basic principles as applied in the clinical laboratory is included. Prerequisites: CLSC 4048 or consent of instructor.

CLSC 4050. Research In Cytogenetics. 1-5 Credit Hours.
This is an advanced course that provides the student an opportunity to apply scientific method to a clinical laboratory research problem, demonstrate a systematic application of hypothesis formation, and decision-making through research design principles. Course evaluation is based upon performance on the term project. Requires consent of Program Director and Instructor. May be repeated for credit. Prerequisites: CLSC 4047.

CLSC 4058. Hematology Categorical Practicum. 6 Credit Hours.
Under the direction and supervision of a clinical instructor, the student will have the opportunity to gain expertise working in the clinical hematology laboratory. Students will perform routine and special hematologic procedures, "troubleshoot" automated cell counters, and gain proficiency in morphologic evaluation of normal and abnormal cellular morphology, including peripheral blood and bone marrow examination. The student will be introduced to the technology of flow cytometry and immunologic study of disease states. In addition, the student will perform routine and special coagulation procedures and evaluate body fluids. Internal and external quality control methods in the hematology/coagulation laboratory will be emphasized. Phlebotomy techniques also will be practiced.

CLSC 4068. Immunohematology Categorical Practicum. 6 Credit Hours.
Under the supervision and direction of a clinical laboratory instructor, the student will have the opportunity to gain expertise in the various facets of clinical immunohematology. Areas emphasized include donor collection and processing, component preparation, routine grouping and typing, and compatibility testing. Students will have the opportunity to perform serologic testing for transfusion-transmitted disease. In addition, they will solve complex antibody problems and typing discrepancies using specialized techniques such as enzyme treatment, elution, and autoabsorption. Students will be required to perform HLA typing and investigate suspected cases of hemolytic disease of the newborn and transfusion reactions. Quality control procedures and records management for each area will be emphasized.

CLSC 4070. Immunology Practicum. 2 Credit Hours.
The student will be introduced to the technology of flow cytometry and the immunologic study of disease states. In the immunology/serology laboratory, the student will be required to perform routine testing of antigen/antibody reactions to help in the diagnosis of certain disease states.

CLSC 4088. Clinical Chemistry Categorical Practicum. 6 Credit Hours.
Under the supervision and direction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to gain expertise and confidence working with automated clinical analyzers and performing esoteric clinical chemistry analyses. The student will have the opportunity to operate state-of-the-art, high-volume chemical analyzers, to observe preventive maintenance and troubleshooting procedures, and to gain firsthand experience with the recording and evaluation of quality control results. The student will perform highly specialized chemical analyses that may include serum protein electrophoresis, lipoprotein electrophoresis, toxicology screens, immunochemical assays, lecithin/sphingomyelin ratio for assessment of fetal lung maturity, blood gas analyses, and blood gas instrument troubleshooting procedures. The ability to organize work in a multi-tasking environment will be emphasized. The student will be encouraged to present interesting and unusual case studies in an academic environment.

CLSC 4090. Management for Clinical Laboratory Sciences. 3 Credit Hours.
This course is designed to provide the student with the opportunity to develop entry-level management and supervisory skills. Topics include principles of communication; group dynamics; leadership styles; interviewing; planning; financial analysis; and policies, procedures, and regulations. Developing and designing presentations; learning principles, objectives and use of audiovisual aids; and design and evaluation of research projects are discussed. Other timely topics in health care may be considered. This is a Web-based course and enrollment is open to clinical laboratory technicians or military-trained personnel who have been accepted into the CLS program, or by special permission from the course director.

CLSC 5017. Toxicology Seminar. 1 Credit Hour.
This course includes formal exchange of scientific information and ideas through presentations from recent scientific literature and from faculty and student research.

CLSC 5020. Applied Toxicology. 2 Credit Hours.
This course is designed to complement courses CLSC 5014 and CSLC 5018. Under supervision of the program director and toxicologists from various areas of the discipline, the student will apply her/his knowledge of toxicology and forensic science to solving cases in emergency and forensic cases. Permission is required.

CLSC 5041. Laboratory Medicine Lab. 1 Credit Hour.
This course is offered to students in the Physician Assistant Studies Program. This is a laboratory course that provides the student with hands-on experience in performing common physician office laboratory procedures. Case studies are used to help students interpret and use laboratory test results.

CLSC 5090. Independent Study In Clinical Laboratory Studies. 1-4 Credit Hours.
This course allows for in-depth study in a specific topic area. Topics and method of study are agreed upon by instructor and student. The course may be repeated for credit when topics vary.

CLSC 6096. Capstone Project In Toxicology. 4 Credit Hours.
This is a focused well-referenced research project on current issues in any area of toxicology, including but not limited to Clinical (emergency toxicology and therapeutic drug monitoring) and postmortem forensic toxicology. The project shall focus on the theory, analysis and current practices and issues and may involve some laboratory work. The written document shall be between 10,000-15,000 words long and shall be accompanied by an oral presentation.

CLSC 6097. Research. 3 Credit Hours.
This course consists of supervised research under direction of faculty.

CLSC 6098. Thesis. 3 Credit Hours.
Instruction in the preparation of a thesis from the results of the research performed in CLSC 6097. Registration is required for at least one term for the MS candidate enrolled in CLSC 6097. Admission to candidacy for the Master of Science degree is required.

Courses

EMSP 1137. Emergency Procedures 1. 1 Credit Hour.
Application of emergency skills and procedures to simulated or live patients in a lab, clinical, or field setting. Integrate theory and reinforce skills introduced in other courses; and demonstrate comprehensive problem-solving techniques. This course encompasses various patient complaints, ages, pathologies, and all associated related skills and interventions.

EMSP 1149. Pre-Hospital Trauma Life Support. 1 Credit Hour.
This course is an intense skill development in emergency field management, systematic rapid assessment, resuscitation, packaging, and transportation of patients. It includes experiences necessary to meet initial certification requirements.

EMSP 1160. EMT Basic Clinical. 1 Credit Hour.
This course is a method of instruction providing detailed education, training, and work-based experience and direct patient/client care at a clinical site.

EMSP 1161. Clinical 1. 1 Credit Hour.
This course is a method of instruction providing detailed education, training, and work-based experience and direct patient/client care at a clinical site.

EMSP 1162. Clinical 2. 1 Credit Hour.
This course is a method of instruction providing detailed education, training, and work-based experience and direct patient/client care at a clinical site. Prerequisites: EMSP 1161.

EMSP 1201. Anatomy and Physiology for Paramedic Practice. 2 Credit Hours.
A study of the structure and function of the human body, emphasis will be given to the study of cells and tissues, and anatomical and physiological interrelationships of the skeletal, muscular, nervous, and endocrine systems. This course is designed primarily for Paramedic students.

EMSP 1238. Introduction to Paramedic Practice. 2 Credit Hours.
This course is an exploration of the foundations necessary for mastery of the advanced topics of clinical practice out of the hospital. Course Learning Outcomes: At the completion of this module, the student will be required to understand the roles and responsibilities of a paramedic within the EMS system, apply the basic concepts of development and pathophysiology to assessment, and management of emergency patients.

EMSP 1248. Emergency Pharmacology. 2 Credit Hours.
This course is a comprehensive course covering all aspects of the utilization of medications in treating emergencies. The course is designed to complement Cardiology, Special Populations, and Medical Emergency courses. Course Learning Objectives: The student will be required to display a command of general pharmacological terminology, general drug mechanisms, administration routes and administration procedures, and drug dose calculations. Students will be required to demonstrate understanding of the pharmacodynamics, pharmacokinetics, indications, contraindications, possible side effects, and common drug interactions of a variety of medications used in out-of-hospital medical care.

EMSP 1256. Airway Management and Patient Assessment. 2 Credit Hours.
This course is a detailed study of the knowledge and skills required to reach competence in performing patient assessment and airway management. Course Learning Outcomes: At the completion of this module, the student will be required to take a proper history and perform a comprehensive physical exam on any patient, develop a patient care plan, communicate with others, and establish and/or maintain a patent airway, oxygenate, and ventilate a patient. Course fees: Lab materials fee $150.

EMSP 1301. Anatomy and Physiology for Paramedic Practice. 3 Credit Hours.
A study of the structure and function of the human body, emphasis will be given to the study of cells and tissues, and anatomical and physiological interrelationships of the skeletal, muscular, nervous, and endocrine systems. This course is designed primarily for Paramedic students.

EMSP 1338. Introduction to Paramedic Practice. 3 Credit Hours.
Fundamental elements associated with emergency medical services to include preparatory practices, pathophysiology, medication administration, and related topics.

EMSP 1344. Cardiology. 3 Credit Hours.
This course is a detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with cardiac emergencies. Prerequisite: EMSP 1244.

EMSP 1348. Emergency Pharmacology. 3 Credit Hours.
This course is a comprehensive course covering all aspects of the utilization of medications in treating emergencies. The course is designed to complement Cardiology, Special Populations, and Medical Emergency courses.

EMSP 1356. Airway and Respiratory Management. 3 Credit Hours.
Integrates complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patent airway, adequate mechanical ventilation, and respiration for patients of all ages. Course fees: Lab materials fee $225.00.

EMSP 1444. Cardiology. 4 Credit Hours.
Assessment and management of patients with cardiac emergencies. Includes single and multi-lead ECG interpretation.

EMSP 1501. EMT. 5 Credit Hours.
This course is an introduction to the level of EMT Basic. It covers the skills necessary to provide emergency medical care at the basic life support level with an ambulance service or other specialized service.

EMSP 2135. Advanced Cardiac Life Support. 1 Credit Hour.
Instruction satisfies guidelines published by the American Heart Association for their ACLS core curriculum. The focus is on the initial management of the cardiopulmonary arrest patient, including advanced airway management techniques, cardiovascular pharmacology, defibrillation, and arrhythmia analysis. The student must review the current AHA ACLA text prior to class. Successful completion results in ACLS Provider Course Completion Card.

EMSP 2138. EMS Operations. 1 Credit Hour.
This is a course of study to prepare the paramedic to safely manage medical incidents, rescue situations, hazardous materials, and crime scenes.

EMSP 2160. Paramedic Clinical 3. 1 Credit Hour.
A method of instruction providing detailed education training and work-based experience and direct patient/client care at a clinical site. Prerequisites: EMSP 1162.

EMSP 2161. Paramedic Clinical 4. 1 Credit Hour.
This course is a clinical internship requiring each student under close supervision to complete a stated number of objectives in both the hospital and ambulance environment. Clinical courses to be taken in the sequence are listed above. Students are evaluated on cognitive, psychomotor, and affective domains. A numerical grade is awarded based on performance levels and course objectives met. Note: Successful completion of clinical requirements is based on objectives met along with the required Hours. It may be necessary for a student to complete more than the scheduled 375 hours in order to meet the objectives.

EMSP 2164. Paramedic Practicum. 1 Credit Hour.
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

EMSP 2174. Practicum for Advanced Paramedic Practice. 1 Credit Hour.
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

EMSP 2177. Emergency Procedures 3. 1 Credit Hour.
Application of emergency medical procedures.

EMSP 2230. Special Populations. 2 Credit Hours.
This course is a detailed study of the knowledge and skills necessary to reach competence in the assessment and management of ill or injured patients in nontraditional populations.

EMSP 2237. Emergency Procedures 2. 2 Credit Hours.
Application of emergency skills and procedures to simulated or live patients in a lab, clinical, or field setting. Integrate theory and reinforce skills introduced in other courses; and demonstrate comprehensive problem-solving techniques. This course encompasses various patient complaints, ages, pathologies, and all associated related skills and interventions. Course fees: $100.

EMSP 2238. EMS Operations. 2 Credit Hours.
Knowledge and skills to safely manage multi-casualty incidents and rescue situations; utilize air medical resources; identify hazardous materials and other specialized incidents; operational roles and responsibilities to ensure safe patient, public, and personnel safety.

EMSP 2243. Assessment-Based Management. 2 Credit Hours.
This course is designed to provide for teaching and evaluating comprehensive assessment-based patient care management.

EMSP 2244. Cardiology. 2 Credit Hours.
A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with cardiac emergencies.

EMSP 2255. Trauma Management. 2 Credit Hours.
This course is a detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with traumatic injuries and to safely manage the scene of an emergency. At the completion of this module, the student will be required to integrate the pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the trauma patient.

EMSP 2274. Medical Emergencies 2. 2 Credit Hours.
Knowledge and skills in the assessment and management of patients with medical emergencies, including medical overview, neurology, gastroenterology, immunology, pulmonology, urology, hematology, endocrinology, toxicology, and other related topics.

EMSP 2278. Advanced Pharmacology. 2 Credit Hours.
Utilization of medications in treating emergency situations with special emphasis on basic principles of pharmacology. This includes the pharmacologic properties of major drug classes and individual drugs, and the clinical application of drug therapy and awareness.

EMSP 2300. Preparation for Professional Practice. 3 Credit Hours.
Theory and skills necessary for the management of cardiac, medical, trauma and pediatric patients specified by American Heart Association and National Association of EMTs guidelines. May be repeated multiple times to improve student proficiency.

EMSP 2330. Special Populations. 3 Credit Hours.
Knowledge and skills necessary to assess and manage ill or injured patients in diverse populations to include neonatology, pediatrics, geriatrics, and other related topics.

EMSP 2334. Medical Emergencies 1. 3 Credit Hours.
This course is a detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with medical emergencies. At the completion of this module, students will be required to integrate pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for the medical patient.

EMSP 2355. Trauma Management. 3 Credit Hours.
Knowledge and skills in the assessment and management of patients with traumatic injuries.

EMSP 2371. Physical Exam and History Taking. 3 Credit Hours.
The purpose of this course is to provide the learner with the ability to perform and work in non-traditional and rural settings. Learners will gain the skills of patient assessment, disease identification, health education, and preventative medicine. Learners are given the opportunity to study methods for understanding disease processes through proper techniques for eliciting a complete patient history and performing a thorough physical examination. (Successful completion of Physical Assessment & Airway Management and Physical Examination and History Taking satisfies the Physical Examination and History Taking course requirements for the EHS BS degree).

EMSP 2376. Cardiology 2. 3 Credit Hours.
A study of the fundamentals of electrocardiography with emphasis on the role of the 12-lead ECG for advanced paramedic and community paramedic practice. (Successful completion of Cardiology I and II satisfies the Electrocardiography in EHS course requirement for the EHS BS degree).

EMSP 2378. Critical Care Paramedic. 3 Credit Hours.
The purpose of this course is to provide the learner with advanced knowledge in critical care medicine and to prepare healthcare personnel to function as members of a critical care transport team. Topics will include monitoring technology, advanced procedures, diagnostic testing, and treatment of acutely critical patients. (Successful completion satisfies the Critical Care Paramedic course for the EHS BS degree.).

EMSP 2434. Medical Emergencies. 4 Credit Hours.
Knowledge and skills in the assessment and management of patients with medical emergencies, including medical overview, neurology, gastroenterology, immunology, pulmonology, urology, hematology, endocrinology, toxicology, and other related topics.

EMSP 2443. Assessment-Based Management. 4 Credit Hours.
A summative experience covering comprehensive, assessment-based patient care management for the paramedic level and preparation for national certification examination.

EMSP 3001. Foundations of Emergency Health Sciences. 3 Credit Hours.
This course is an introduction to EMSP. This course surveys the history, evolution, theoretical concepts, and clinical methods and techniques that support the practice of EMSP.

EMSP 3003. Critical Care Medicine. 3 Credit Hours.
This course is designed to provide advanced knowledge in critical care medicine. Topics will include monitoring technology, advanced procedures, diagnostic testing, and treatment of acutely critical patients.

EMSP 3004. Pharmacology 1 for EMS Providers. 3 Credit Hours.
This course is designed to provide the learner with a fundamental knowledge of the actions and therapeutic uses of drugs. The topics covered will include basic principles of drug action, pharmacokinetics, autonomic and cardiovascular pharmacology, neuropharmacology, toxicology, endocrine pharmacology, and respiratory tract pharmacology. Open for Cross Enrollment on Space Available Basis.

EMSP 3006. Electrocardiology in Emergency Health Science. 3 Credit Hours.
A study of the fundamentals of electrocardiology, this course will emphasize the role of the 12-lead ECG in out-of-hospital medical care. The purpose of this course is to teach a systematic-analytical approach to rapid 12-lead interpretation. Topics begin with cardiac anatomy and physiology and progress to the level of recognizing the classic 12-lead and multi-lead ECG patterns. Open for Cross Enrollment on Space Available Basis.

EMSP 3007. Human Diseases. 3 Credit Hours.
This purpose of this course is to provide a foundation in basic disease conditions, pathophysiological process behind major diseases and their causes, definitions of disease, classifications of disease, and descriptions of diseases as they pertain to the emergency health sciences. Open for Cross Enrollment on Space Available Basis.

EMSP 3010. Basic Cardiac Life Support. 0 Credit Hours.
Course instruction satisfies AHA guidelines for Basic Cardiac Life Support (BCLS). Successful completion merits AHS BLS Course Completion Card. Topics include basic airway and ventilatory management of the choking and/or unconscious infant, child, and adult; cardiac chest compressions; and automated external defibrillation (AED). AHD Standard written and skills exams administered.

EMSP 3011. EMS Informatics. 3 Credit Hours.
This course is a class designed to initiate today's EMS professional to the rapidly advancing field of information science and to acquaint the students with the concepts of electronic field data collection, database theory and its application to EMS, information driven performance improvement, and clinical education.

EMSP 3012. Behavioral Medicine and Psychopathology. 3 Credit Hours.
This course provides an opportunity to develop an understanding of human behavior by providing an overview of behavioral disease processes and differentiation criteria to include disease presentation, physical examination findings, laboratory testing, and therapeutic approaches. The course will focus on issues pertinent to the pre-hospital environment including common patient presentation, overview of the legal system with mental health patients, and individual and system interventions.

EMSP 3013. Professional Orientation and Legal Foundations. 3 Credit Hours.
This course provides the student with an overview of the legal foundations for Emergency Medical Services. Topics include concepts of malpractice, litigation, consent and refusal of medical treatment, advanced directives, patient confidentiality, and expert and factual witness preparation.

EMSP 3014. Interprofessional Health Care Teams. 3 Credit Hours.
Healthcare is a volatile, uncertain, complex, and ambiguous system involving groups and teams of professionals. In an effort to improve general patient population health, the overall health care experience, and reduce the per capita cost of care, this class will explore relational leadership that promotes interdisciplinarity, interprofessionalism, and productive teamwork. During this course, learners will review theories and rich references while participating in activities and stimulating discussions to think differently about their roles and styles as leaders or members of a team.

EMSP 3015. Multicultural Health. 3 Credit Hours.
Cultural competence is essential to healthcare professionals. Medical professionals interact daily with diverse groups of people. This course will focus on differences in cultural beliefs about health, wellness, illness, and death, as well as cross-cultural health models and effective communications with the goal of developing and evaluating health promotion programs within the community. Learners will participate in online activities, case studies, and activities.

EMSP 3031. Directed Study. 1-4 Credit Hours.
This course is available to the learner to allow for a voluntary course of independent study in a clinical/advanced provider concentration.

EMSP 3041. Current Research In Emergency Health Sciences. 3 Credit Hours.
This course is a seminar designed to encourage the learner to discover research and research trends in the field of EMSP. Basic concepts in research methods will be discussed. The learner will have the opportunity to discover methods, procedures, and ways of analysis for examining research.

EMSP 3100. Orientation to Online Learning. 1 Credit Hour.
A course designed to provide the student with necessary information, tools, and strategies to enhance and facilitate learning at a distance at the Health Science Center.

EMSP 4001. Physical Examination and History Taking. 3 Credit Hours.
This course is designed to assist students in refining history taking, psychosocial assessment, and physical assessment skills. Emphasis is placed on detailed health history taking, differentiation, interpretation, and documentation of normal and abnormal findings. Learners are given the opportunity to study methods for understanding disease processes through proper techniques for eliciting a complete patient history and performing a thorough physical examination. Open for Cross Enrollment on Space Available Basis.

EMSP 4002. Pathophysiology for EMS Providers. 3 Credit Hours.
This course is designed to introduce the student to pathophysiologic concepts related to altered biological processes affecting individuals across the lifespan. It includes basic mechanisms of disease, the immune response, and selected disorders of the following systems: neurologic, endocrine, reproductive, musculoskeletal, cardiovascular, hematologic, respiratory, urinary, and digestive.

EMSP 4003. Flight Medicine. 3 Credit Hours.
This course is designed to provide the learner with general physics of flight as well as the effect that flight has on patients and equipment utilized in patient care. Additionally, general aviation guidelines and safety protocols will be introduced as well as the regulatory structure of flight medicine. Open for Cross Enrollment on Space Available Basis.

EMSP 4004. Management of Disasters and Hazard Materials. 3 Credit Hours.
This course discusses considerations of the theoretical and practical foundations necessary to manage multi-casualty and multi-agency incidents, including planning, response, triage, and scene control. Medical, surgical, mental health, and public health views are discussed along with the resolution phases of disaster.

EMSP 4005. EHS Systems Management and Budget. 3 Credit Hours.
This course is designed to identify and discuss various forms and trends of EHS Systems management. From the volunteer service to the large, urban EHS system, the learner will have the opportunity to become familiar with the various aspects of America's EHS services. Budgeting and financial management skills and understanding necessary to manage emergency health systems will be emphasized.

EMSP 4006. Educational Issues in Emergency Health Sciences. 3 Credit Hours.
This course analyzes educational and training needs relating to EMS agencies. Principles of adult teaching and learning are presented.

EMSP 4007. Human Resource Development. 3 Credit Hours.
This course reviews the policies necessary to ensure that properly prepared and motivated personnel are available to carry out the mission and daily operations of an EMS organization and to gain a scholarly understanding of and familiarity with foundational HRD theory and research. Topics include methods of hiring staff, performance appraisal processes, legal requirements around health and safety, union matters, and sexual harassment in the workplace. Open for Cross Enrollment on Space Available Basis.

EMSP 4008. Leadership Development. 3 Credit Hours.
This course is a study and application of contemporary leadership theories and conceptual, skill-building, feedback, and personal growth approaches for the development of effective organizational leadership behaviors and practices. Open for Cross Enrollment on Space Available Basis.

EMSP 4009. Pediatric Advanced Life Support (PALS). 1 Credit Hour.
Instruction presented satisfies guidelines published by the American Heart Association's ECC for the PALS core curriculum. The focus is on the initial management of the cardiopulmonary arrest pediatric patient including advanced airway management techniques, cardiovascular pharmacology, defibrillation, and arrhythmia analysis. The student must review the current AHA PALS text prior to class. Successful completion results in PALS Provider Course Completion certification.

EMSP 4010. Emer Med Serv-Ambulance. 4 Credit Hours.
Orientation to the San Antonio Fire Department Standard Medical Operating Procedures (SMOPs) and EMS Organization is followed by assignment to SAFD Paramedic Ambulance teams. The student experiences emergency patient encounters involving on-the-scene pre-hospital management of medical, surgical, pediatric, psychological, obstetrical, and social emergencies. Experiences include vehicle extrication, full range of pre-hospital medical and trauma patients, EMS communication procedures, medical-legal situations, conflict resolution, EMS-Police cooperation, BLS/ACLS, hospital diversions experience and patient access to care problems peculiar to EMS. During 40 requisite patient encounters, the student makes brief assessment notes, assists in the care and transportation of patients to the 20 San Antonio Emergency rooms. The rotation also includes EMS Case Discussions, formal classes in comparative EMS organizations, methods of emergency triage, introduction to disaster medicine, management of mass casualties, and a survey of weapons of mass destruction. Prerequisite: Current BLS Certification and successful completion of third year of medical school is required.

EMSP 4011. Contemporary Ethical Dilemmas. 3 Credit Hours.
Contemporary Ethical Dilemmas in Health Professions with special emphasis on out-of-hospital and EMS medical care. This course provides the knowledge necessary to understand ethical behaviors and decision-making in health care and is an introduction to various ethical-legal issues.

EMSP 4012. Pharmacology 2 for EMS Providers. 3 Credit Hours.
This course is designed to provide a fundamental knowledge of the actions and therapeutic uses of drugs. Topics covered include: fluid and electrolyte balance, bone and joint disorders, nutrition, infectious diseases, and cardiovascular and parasitic diseases. Online course. Note: EMSP 3004 Pharmacology I is not a prerequisite for this course.

EMSP 4013. Evidence-Based Practice Research in EHS. 3 Credit Hours.
This course is designed to give students experience in qualitative research through development and investigation of a prehospital medical or systems practice study. This course allows students to expand research knowledge into application using the research process and methods of evidence-based practice. Prerequisites: EMSP 3041.

EMSP 4023. Mobile Integrated Healthcare Paramedicine. 3 Credit Hours.
From managing chronic disease to providing preventive care to coordinating health services, the Mobile Integrated Healthcare Paramedic (MIHP)/Community Paramedic (CP) collaborates with a team of health care professionals to address health problems within their communities, reduce hospital readmissions, prevent unnecessary ambulance transports, and help patients manage their medical needs to achieve the best possible long-term outcome. The MIHP course will consist of lessons developed to equip experienced paramedics with the skills they need to succeed in a Mobile Integrated Healthcare program.

EMSP 4031. Independent Study 2-Clinical. 3 Credit Hours.
This course is available to the learner to allow for a voluntary course of independent study in a clinical/advanced provider concentration.

EMSP 4100. Advanced Cardiac Life Support. 1 Credit Hour.
The focus of this course is the initial management of the cardiopulmonary- arrest patient including advanced airway management techniques, cardiovascular pharmacology, defibrillation, and arrhythmia analysis. The student must review the current AHA ACLS text prior to class. Successful completion results in an ACLS Provider Course Completion Card. Instruction presented satisfies guidelines published by the American Heart Association's ECC for their ACLS core curriculum.

EMSP 5001. Basic Cardiac Life Support. 0 Credit Hours.
Course instruction satisfies AHA guidelines for Basic Cardiac Life Support (BCLS). Successful completion merits AHA BLS Provider course completion card. Topics include basic airway and ventilatory management of the choking and/or unconscious infant, child, or adult victim; cardiac chest compression techniques; automated external defibrillation (AED). AHA standard written and skills exams administered.

EMSP 5100. Advanced Cardiac Life Support. 0 Credit Hours.
The focus of this course is the initial management of the cardiopulmonary- arrest patient including advanced airway management techniques, cardiovascular pharmacology, defibrillation, and arrhythmia analysis. The student must review the current AHA ACLS text prior to class. Successful completion results in an ACLS Provider Course Completion Card. Instruction presented satisfies guidelines published by the American Heart Association's ECC for their ACLS core curriculum.

EMSP 6135. Advanced Cardiac Life Support. 1 Credit Hour.
Theory and skills necessary for the management of cardiovascular emergencies as specified by the American Heart Association (AHA) guidelines. This course was designed to be repeated multiple times to improve student proficiency and available for Master's level of higher programs.

EMSP 7001. Basic Cardiac Life Support. 0 Credit Hours.
Course instruction satisfies AHA guidelines for Basic Cardiac Life Support. Successful completion merits AHA BLS Healthcare Provider course completion certification. Topics include basic airway and ventilatory management of the choking and/or unconscious infant, child or adult victim, cardiac chest compression techniques, and automated external defibrillation (AED). AHA standard written and skills exams administered.

Courses

PHAS 5000. Physician Assistant Policy and Practice. 2 Credit Hours.
This course will provide the student with an overview of the assistant physician profession. The course will provide the student with an opportunity to develop an understanding of the profession to include history, social and policy issues, medical ethics, liability, educational philosophy, certification/licensure requirements, and professional concepts/issues, including a team approach to health care. Discussion will include intellectual honesty, academic and professional conduct.

PHAS 5001. Patient Evaluation 1. 2 Credit Hours.
This course provides the student with an opportunity to develop a theoretical and clinical basis for assessment of the patient. The process, in which a physician assistant utilizes a comprehensive physical, psychosocial, and cultural assessment across the lifespan to gather specific data relevant to common health problems, is demonstrated. Faculty will facilitate laboratory and clinical experiences that will focus on assessment of patients and presentation of findings in a variety of settings.

PHAS 5003. Behavioral Medicine. 1 Credit Hour.
This course provides the student with an opportunity to develop an understanding of human behavior by providing an overview of major behavioral disease processes and differentiation criteria to include disease presentation, physical examination findings, laboratory testing, and therapeutic approaches. Open for Cross Enrollment on Space Available Basis.

PHAS 5005. Clinical Applications in Nutrition. 2 Credit Hours.
The student will have the opportunity to develop knowledge of the role of nutrition in healthy and disease states. Emphasis will be on nutrition as a component of patient care and treatment.

PHAS 5006. Clinical Physiology. 4 Credit Hours.
This course is designed to provide students in health professions discipline with the fundamentals of normal human physiology. The course includes concepts from cellular to system level. Topics include cellular, respiratory, cardiovascular, digestive, renal, male and female reproductive, musculoskeletal, nervous, and endocrine systems with integration of these physiologic concepts to pathologic disease processes. The course includes classroom lecture, case studies and student presentations.

PHAS 5007. Pathogenesis of Human Disease. 3 Credit Hours.
This course covers the basic principles of pathology providing the opportunity for the understanding of human disease processes. Course content includes discussion of general disease processes such as cellular degeneration, inflammation, tissue repair, chemical and physical injury, developmental disorders and neoplasia and a thorough examination of the principal diseases of the major tissues and organ systems. Upon completion of the course the student will have had the opportunity to acquire foundation knowledge of the concepts of pathophysiology applicable and required for clinical diagnosis of human diseases. Open for Cross Enrollment on Space Available Basis.

PHAS 5009. Principles of Nutrition for the Physician Assistant. 2.5 Credit Hours.
The student will have the opportunity to develop knowledge of the role of nutrition in healthy and disease states. Emphasis will be on nutrition as a component of patient care and treatment. Open for Cross Enrollment on Space Available Basis.

PHAS 5011. Principles of Ethics and Professionalism. 1 Credit Hour.
A major component of becoming a critical thinker involves understanding of professional behavior and ethical decision making that may affect others, particularly patients and their families. This course will encourage discussion and analysis of issues that involve professional behavior and ethical conflicts to help PA students prepare for approaching ethical dilemmas. In addition, the course will address ethical issues relating to research.

PHAS 5033. Clinical Medicine 1. 10 Credit Hours.
This course provides students with all aspects of medical care based on an organ system approach. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Health disparities will be included. Special topics will include pediatric and geriatric applications. The organ systems to be covered are genetics, dermatology, renal/male reproductive, cardiovascular, respiratory, and hematologic.

PHAS 5034. Clinical Medicine 2. 10 Credit Hours.
This course provides students with all aspects of medical care based on an organ system approach. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Health disparities will be included. Special topics will include pediatric and geriatric applications. The organ systems to be covered are gastrointestinal, musculoskeletal, neurologic female reproductive, endocrine, and special topics.

PHAS 5035. Clinical Medicine for PA 1. 3 Credit Hours.
This course provides students with all aspects of medical care based on an organ system approach. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Health disparities will be included. Special topics will include pediatric and geriatric applications. The organ systems to be covered are genetics, ophthalmology, otolaryngology and dermatology.

PHAS 5036. Clinical Medicine for PA 2. 5 Credit Hours.
This course provides students with all aspects of medical care based on an organ system approach. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Health disparities will be included. Special topics will include pediatric and geriatric applications. The organ systems to be covered are: cardiology with EKG, and pulmonology.

PHAS 5037. Clinical Medicine for PA 3. 10 Credit Hours.
This course provides students with all aspects of medical care based on an organ system approach. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Health disparities will be included. Special topics will include pediatric and geriatric applications. The organ systems to be covered are: neurology, musculoskeletal, rheumatology, gastrointestinal, infectious disease, obstetrics, gynecology, and endocrinology.

PHAS 5038. Clinical Medicine for PA 4. 2 Credit Hours.
This course provides students with all aspects of medical care based on an organ system approach. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Health disparities will be included. Special topics will include pediatric and geriatric applications. The organ systems to be covered are nephrology, urology, hematology, and oncology.

PHAS 5043. Physiology in Health and Disease. 4 Credit Hours.
This course shall provide students with the opportunity to develop a knowledge base of human physiology in health and diseased states. Emphasis will be on the pathophysiology of human disease processes. Course content includes organ system physiology and general disease processes of degeneration, inflammation, neoplasia, and changes associated with major tissue/organ diseases.

PHAS 5044. Clinical Anatomy. 5 Credit Hours.
This course uses lecture and laboratory experience to learn gross morphology of the human body including: structural relationships, anatomical variations and radiological correlations. The course will emphasize the application of this anatomical knowledge to clinical practice. Students will conduct a complete cadaver gross dissection in order to reveal the anatomical basis for performing clinical procedures, conduct a physical exam, and assess structures that may be injured or diseased based on a patient presentation. Students are expected to become skilled at identification of anatomical structures, and are also expected to become proficient at recognition of structural arrangements and structural relationships. Students have the opportunity to further their knowledge of anatomy by using computer-assisted technology, which is available online. Course Fees: Admin Fee/Materials: $831 Lab/ Gross Anatomy: $30.

PHAS 5091. Special Topics. 1-10 Credit Hours.
This special topics or directed study course is a faculty-directed, didactic opportunity for students. Specific course objectives and study plans will be developed based on student needs and faculty decisions. The course may be used for special projects, additional coursework, or remedial education. It may be repeated for credit.

PHAS 5201. Patient Evaluation 2. 2 Credit Hours.
This course is a continuation of Patient Evaluation 1, and provides the student with additional opportunities to develop a theoretical and clinical basis for assessment of the patient. The process, in which a physician assistant utilizes a comprehensive physical, psychosocial, and cultural assessment across the lifespan to gather specific data relevant to common health problems, is demonstrated. Faculty will facilitate laboratory and clinical experiences that will focus on assessment of patients and presentation of findings in a variety of settings.

PHAS 5301. Patient Evaluation 3. 2 Credit Hours.
This course is a continuation of Patient Evaluation 2, and provides the student with additional opportunities to develop a theoretical and clinical basis for assessment of the patient. The process, in which a physician assistant utilizes a comprehensive physical, psychosocial, and cultural assessment across the lifespan to gather specific data relevant to common health problems, is demonstrated. Faculty will facilitate laboratory and clinical experiences that will focus on assessment of patients and presentation of findings in a variety of settings.

PHAS 6004. Preventative Medicine and Public Health. 3.5 Credit Hours.
The student will have an opportunity to develop an understanding and knowledge of epidemiology and preventive medicine across a number of topics. An introduction to public health, with an emphasis on needs assessment and project development, is a major component of this course. Open for Cross Enrollment on Space Available Basis.

PHAS 6009. Laboratory Medicine. 3 Credit Hours.
This course is offered to students in the Physician Assistant Studies Program at UT Health San Antonio. The course is designed to provide the student with the opportunity to gain information on the profession of clinical laboratory science including history and job characteristics. Relationships between abnormal physiology and laboratory testing will be emphasized. Basic lab and math statistics will be taught. Part of the course is Web-based.

PHAS 6010. Pharmacology 1. 3 Credit Hours.
The student will have an opportunity to develop an understanding and knowledge of the pharmacological basis of therapeutics with special emphasis on the biochemical and physiological functions in disease. Majors areas covered include drugs active in the cardiovascular, autonomic, and central nervous systems. General principles of drug action and specific coverage of drugs used in the treatment of bacterial, viral, and parasitic diseases are provided.

PHAS 6013. Clinical Research and Evidence Based Medicine. 3 Credit Hours.
This course is a general introduction to research design, statistical reasoning, and interpretation of medical/scientific literature. Topics include scientific method, theory, development of research questions, issues of measurement, models of experimental and non-experimental designs, and an overview of parametric and non-parametric statistical techniques. All topics will be in reference to understanding the literature and to evidence for practice decisions. The learner will have an opportunity to critically analyze medical and scientific literature/ research and participate in a research project headed by faculty mentors.

PHAS 6014. Pharmacology 2. 3 Credit Hours.
A continuation of Pharmacology 1, the student will have an opportunity to develop an understanding and knowledge of the actions and therapeutic uses of drugs. The topics include principles of pharmacology and pharmacokinetics. Topics will center on drug action, autonomic and cardiovascular pharmacology, neuropharmacology, endocrine pharmacology, GI and respiratory pharmacology, and an introduction to chemotherapy and toxicology. Special topics will include basics in prescription writing.

PHAS 6015. Clinical Skills. 2.5 Credit Hours.
This course provides the student with an opportunity to experience multiple aspects of clinical practice and procedure skills to further develop an appreciation for the art and science of medicine as it relates to physician assistant practice. The student will have an opportunity to apply those skills taught in lecture to lab practicums and outside clinical experience during the clinical phase of their studies. Faculty will facilitate laboratory experience that will focus on demonstration and performance based training. Activities will range from observation to participation in procedure skills. Course Fees: Clinical fee $300.00.

PHAS 6101. Internal Medicine Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation is part of a series of supervised clinical practice (SCP) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCP experiences enable students to meet program expectations, and acquire the competencies needed for entry level clinical PA practice. This outpatient primary care rotation will include preventive, acute and chronic patient encounters that include women's health and care across the life span.

PHAS 6102. Family Medicine Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation is part of a series of supervised clinical practice (SPC) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCP experiences enable students to meet program expectations, and acquire the competencies needed for entry level clinical PA practice. This outpatient primary care rotation will include preventive, acute and chronic patient encounters that include women's health and care across the life span.

PHAS 6103. Internal/Family Medicine Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation course is part of a series of supervised clinical practice (SPC) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCP experiences enable students to meet program expectations and acquire the competencies needed for entry level clinical PA practice. This outpatient primary care rotation will include preventive, acute and chronic patient encounters that include women's health and care across the life span.

PHAS 6104. Pediatrics Supervised Clinical Practice Experience 4. 4 Credit Hours.
This clinical rotation is part of a series of supervised clinical practice (SPC) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCP experiences enable students to meet program expectations and acquire the competencies needed for entry-level clinical PA practice. Students will encounter the types of patients essential to preparing them for entry into practice. The outpatient pediatric rotation will include preventive, acute and chronic patient encounters.

PHAS 6105. Emergency Medicine Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation course is part of a series of supervised clinical practice (SPC) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SPC experiences enable students to meet program expectations, and acquire the competencies needed for entry-level clinical PA practice. Students will encounter the types of patients essential to preparing them for entry into practice. This emergency medical rotation will include acute and emergent patient encounters that include women's health and care across the life span.

PHAS 6106. Inpatient Medicine Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation course is part of a series of supervised clinical practice experience (SCPE) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCPEs enable students to meet program expectations, and acquire the competencies needed for entry-level clinical PA practice. This inpatient rotation will include preventative, acute and emergent patient encounters that include pre- and post- surgical care, women's health and care across the life span.

PHAS 6107. Women's Health Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation is part of a series of supervised clinical practice experience (SCPE) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCPEs enable students to meet program expectations and acquire the competencies needed for entry-level clinical PA practice. This women's health rotation will include preventative, acute, chronic and emergent patient encounters across the life span.

PHAS 6108. Surgery Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation is part of a series of supervised clinical practice experience (SCPE) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCPEs enable students to meet program expectations and acquire the competencies needed for entry-level clinical PA practice. This surgical rotation will include acute, chronic, and emergent patient encounters involving pre-surgical, post-surgical, and intra-surgical care.

PHAS 6109. Behavioral Medicine Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation is part of a series of supervised clinical practice experience (SCPE) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCPEs enable students to meet program expectations, and acquire the competencies needed for entry-level clinical PA practice. This psychiatry rotation will include preventative, acute, chronic, and emergent patient encounters that include women's health and care across the life span.

PHAS 6110. Supervised Clinical Research Experience. 4 Credit Hours.
This clinical phase rotation course is a supervised research month opportunity for students who have completed the didactic phase of the Physician Assistant curriculum. This course is designed to provide practical application of skills learned during PHAS 6013 Scientific Inquiry. During this rotation, students will have the opportunity to explore research design, statistical reasoning, and interpretation of medical/scientific literature. This rotation will enhance the students' understanding and interpretation of medical literature and the application of evidence for practice decisions. The learner will have an opportunity to critically analyze medical and scientific literature/research and demonstrate the results of their team's research project headed by faculty mentors.

PHAS 6111. Elective 1 Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation course is part of a series of supervised clinical practice experience (SCPE) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCPEs enable students to meet program expectations, and acquire the competencies needed for entry-level clinical PA practice. This elective rotation can include preventative, acute, chronic, and emergent patient encounters that include surgical care, women's health and care across the life span.

PHAS 6112. Elective 2 Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation is part of a series of supervised clinical practice experience (SCPE) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCPEs enable students to meet program expectations, and acquire the competencies needed for entry-level clinical PA practice. This elective rotation can include preventative, acute, chronic, and emergent patient encounters that include surgical care, women's health and care across the life span.

PHAS 6113. Elective 3 Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation is part of a series of supervised clinical practice experience (SCPE) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCPEs enable students to meet program expectations, and acquire the competencies needed for entry-level clinical PA practice. This elective rotation can include preventative, acute, chronic, and emergent patient encounters that include surgical care, women's health and care across the life span.

PHAS 6114. Elective 4 Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation is part of a series of supervised clinical practice experience (SCPE) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCPEs enable students to meet program expectations, and acquire the competencies needed for entry-level clinical PA practice. This elective rotation can include preventative, acute, chronic, and emergent patient encounters that include surgical care, women's health and care across the life span.

PHAS 6115. Elective 5 Supervised Clinical Practice Experience. 4 Credit Hours.
This clinical rotation is part of a series of supervised clinical practice experience (SCPE) opportunities for students who have completed the didactic phase of the Physician Assistant curriculum. SCPEs enable students to meet program expectations, and acquire the competencies needed for entry-level clinical PA practice. This elective rotation can include preventative, acute, chronic, and emergent patient encounters that include surgical care, women's health and care across the life span.

PHAS 6120. Endocrinology. 1.5 Credit Hour.
This course provides students with aspects of medical care related to the endocrine system. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Instruction in health disparities and diverse populations is included.

PHAS 6121. Gastroenterology. 2 Credit Hours.
This course provides students with aspects of medical care related to the gastroenterology system. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Instruction in health disparities and diverse populations is included.

PHAS 6122. Orthopedics-Rheumatology. 2 Credit Hours.
This course provides students with aspects of medical care related to the musculoskeletal system. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Instruction in health disparities and diverse populations is included.

PHAS 6123. Infectious Disease. 1 Credit Hour.
This course provides students with aspects of medical care related to infectious diseases. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Instruction in health disparities and diverse populations is included.

PHAS 6124. Women's Health. 1.5 Credit Hour.
This course provides students with aspects of medical care related to the women's health. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Instruction in health disparities and diverse populations is included.

PHAS 6125. Emergency Medicine. 1.5 Credit Hour.
This provides students with the practical aspects of assessment, diagnosis, and management of many commonly encountered medical and surgical emergencies, the basis to identify when a patient's medical situation represents a medical emergency, the medical approaches a patient in an Emergency Department, and how to create emergent differential diagnoses. The materials will include the initial assessment of the medical and trauma patient, review of signs and symptoms and accompanying physical findings, methods of diagnosis, and treatment of a spectrum of emergent illnesses and injuries. The course will be organized by chief complaint and will cover the pertinent diseases processes/injuries to aid in the creation of learners' differential diagnoses.

PHAS 6126. General Surgery. 1.5 Credit Hour.
This didactic phase course covers various topics concerning general surgical care of patients. Emphasis is given to presenting signs and symptoms, laboratory and imaging interpretation and the diagnosis and treatment of selected surgical disorders.

PHAS 6127. Gerontology. 1 Credit Hour.
This course provides students with all aspects of medical care based on an organ system approach. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Health disparities will be included. The organ systems will be covered as they relate to specific geriatric patients: cardiovascular, dermatologic, otorhinolaryngology, endocrine, gastrointestinal/nutritional, hematologic, musculoskeletal, infectious disease, neurologic, psychiatric, pulmonary, and genitourinary/reproductive.

PHAS 6128. Pediatrics. 1 Credit Hour.
This course provides students with all aspects of pediatric medical care based on an organ system approach. It will provide students with an opportunity to develop an understanding of common pediatric disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Health disparities will be included. Special emphasis is placed on childhood growth and development focusing on expected developmental milestones.

PHAS 6129. Hematology-Oncology. 0.5 Credit Hours.
This course provides students with aspects of medical care related to hematology and oncology. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Instruction in health disparities and diverse populations is included.

PHAS 6130. Renal-Genitourinary. 2 Credit Hours.
This course provides students with aspects of medical care related to the renal and genitourinary systems. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Instruction in health disparities and diverse populations is included.

PHAS 6131. Clinical Skills 1. 0.5 Credit Hours.
This course provides the student with knowledge and skills necessary to perform selected clinical procedures using accepted sterile techniques. The student will have the opportunity to demonstrate an understanding of the indications, contraindications, rationale and potential complications with additional emphasis on patient preparation, required materials, asceptic technique, procedure steps, wound care, patient safety and education. Faculty will facilitate lecture and laboratory experience that will focus on demonstration and performance based training. Activities will range from observation to participation in procedure skills utilized during the clinical phase of their studies.

PHAS 6132. Clinical Skills 3. 1 Credit Hour.
This course is a continuation of Clinical Skills 2, and provides the student with additional knowledge and skills necessary to perform selected clinical procedures using accepted sterile techniques. The student will have the opportunity to demonstrate an understanding of the indications, contraindications, rationale and potential complications with additional emphasis on patient preparation, required materials, asceptic technique, procedure steps, wound care, patient safety and education. Faculty will facilitate lecture and laboratory experience that will focus on demonstration and performance based training. Activities will range from observation to participation in procedure skills utilized during the clinical phase of their studies.

PHAS 6133. Cardiology. 3.5 Credit Hours.
This course provides students with all aspects of medical care related to selected cardiovascular disorders. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Health disparities will be included.

PHAS 6134. Pulmonology. 2 Credit Hours.
This course provides students with all aspects of medical care related to selected pulmonary disorders. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Health disparities will be included.

PHAS 6135. Dermatology. 1 Credit Hour.
This course provides students with aspects of medical care related to dermatology. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Instruction in health disparities and diverse populations is included.

PHAS 6136. Otolaryngology. 1.5 Credit Hour.
This course provides students with aspects of medical care related to the otolaryngology related organ systems. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Instruction in health disparities and diverse populations is included.

PHAS 6137. Clinical Skills 2. 1 Credit Hour.
This course is a continuation of Clinical Skills 1, and provides the student with additional knowledge and skills necessary to perform selected clinical procedures using accepted sterile techniques. The student will have the opportunity to demonstrate an understanding of the indications, contraindications, rationale and potential complications with additional emphasis on patient preparation, required materials, asceptic technique, procedure steps, wound care, patient safety and education. Faculty will facilitate lecture and laboratory experience that will focus on demonstration and performance based training. Activities will range from observation to participation in procedure skills utilized during the clinical phase of their studies. Prerequisites: PHAS 6131.

PHAS 6138. Neurology. 1.5 Credit Hour.
This course provides students with aspects of medical care related to the neurologic system. It will provide students with an opportunity to develop an understanding of human disease states. Instruction will include recognition of disease state through data collection, assessment, management, patient education, and disease prevention. Instruction in health disparities and diverse populations is included.

PHAS 7010. Current Issues in Physician Assistant Education. 3 Credit Hours.
This independent study course will provide the student with an opportunity to collaborate with a faculty mentor to select a topic of interest for research analysis and application to PA education comparing and contrasting traditional PA education curriculum with current physician medical school curriculum for application to new models of curriculum delivery. The scope of the project will be defined by the student under the guidance of the faculty mentor.

PHAS 7020. Physician Assistant Leadership and Governance. 3 Credit Hours.
This course will provide a critical examination of topics related to PA leadership. The history of various PA professional organizations and the role of leadership in the advancement of the profession will be discussed as well as current changes in the profession which will affect, governance, national legislation affecting PA's, certification maintenance and the future direction of the profession. Students will engage in research and develop projects to test theories and their impact on future PA leaders and the profession.

PHAS 7030. Research Topics in Physician Assistant Clinical and Professional Practice. 3 Credit Hours.
The student will have an opportunity to develop an understanding and knowledge of epidemiology and preventive medicine across a number of topics. An introduction to community health, with an emphasis on needs assessment and project development will be done.

PHAS 7091. Selected Topics in Physician Assistant Studies. 1-9 Credit Hours.
This course is an independent study of topics of current interest in the physician assistant studies. Includes study of current research and important new developments in specific areas of practice and research. Can be repeated for up to 9 credit hours.