

# SCHOOL OF HEALTH SCIENCES

The state of Connecticut is a growing center of nationally known medical facilities, biotechnology development and pharmaceutical research and manufacture. These institutions have increased demands for individuals with up-to-date training. The Master of Health Science program offers several majors that meet these standards. The Cardiovascular Perfusion program provides comprehensive preparation in clinical sciences and clinical internships to prepare perfusionists who provide life support during cardiopulmonary bypass. The Medical Laboratory Sciences/ Biomedical Sciences program provides laboratory professionals with the opportunity to specialize in fields such as microbiology and biomedical sciences. A full-time program for Pathologists' Assistants provides training in pathology, anatomy and the medical sciences. The Physician Assistant studies program provides full-time instruction in the basic medical and clinical sciences needed for certification and a graduate degree in a growing profession. The Social Work program prepares students for achievement and leadership in the field of social work. The Radiologist Assistant program provides students with full-time advanced training in the field of radiology, which is needed for certification and to obtain a master's degree.

## Career Development

In the School of Health Sciences, the assistant dean for career development works with students to explore majors and career interests through individual consultations and group sessions, and guides them through a career development process. Assistance is provided with resume and cover letter writing, interview preparation, conducting a job search and graduate school applications. Students can participate in experiential learning through community service as well as internships, part-time and summer employment. A health professions career fair is held every spring at the North Haven Campus.

## Additional Requirements

Academic programs with clinical components use multiple clinical education centers. Students are responsible for their transportation to and from these clinical agencies.

## Background Checks

Students should be aware that certain clinical sites or internship locations may require a criminal background check before a student is placed in the clinic or intern site. The university has procedures to assist students in obtaining such a background check. The cost of the background check is the responsibility of each individual student.

## Technical Standards for Admission

Students admitted to all programs in the School of Health Sciences must be able to meet their program's technical standards and or essential functions. Technical standards are developed by accreditation agencies and organizations to establish the essential qualities and standards considered necessary to achieve the skills, knowledge and competencies for entry-level practice. Information on technical standards and essential functions may be found in the catalog, on the website or by contacting the individual program chairperson.

## Academic Good Standing

All undergraduate and graduate students in the School of Health Sciences are expected to maintain the required minimum GPA set forth

by their respective program of study (if applicable). Each program may have additional benchmarks that must be met to progress within the program of study. The student should refer to the program's description in the Quinnipiac University Catalog and to the program's student handbook (if applicable) for clarification for what is required to maintain his/her status within the program.

At the end of each semester, the program directors will compile a list of students who are deficient in meeting academic or clinical/professional achievement requirements. Utilizing the review process established by his/her program, the student will be notified via email of his/her status in the program. Deficient students may be: a) placed on probation, b) suspended or c) dismissed. Students placed on probation remain in their program but in order to progress, must meet the performance standards specified in their probation notification letter. For further clarification please see the Program Level Academic Good Standing Policy (<http://catalog.qu.edu/university-policies/program-level-academic-good-standing-policy>).

## Admission

Students who hold a bachelor's degree in the biological, medical or health sciences are eligible for admission to the Master of Health Science degree program. A detailed autobiography of personal, professional and educational achievements as well as two letters of reference must be submitted with a student's application. Applications may be obtained from the Office of Graduate Admissions. Applicants should refer to the Graduate Admission Requirements (<http://catalog.qu.edu/graduate-studies/#admissionstext>) in this catalog.

The Quinnipiac University Physician Assistant program participates in the Central Application Service for Physician Assistants (CASPA). Go to [caspa.liaisoncas.com](https://caspa.liaisoncas.com) (<https://caspa.liaisoncas.com>) for more information regarding the application process and fees. All applications, transcripts, references and other supporting materials are submitted directly to CASPA. The Physician Assistant program admits students on a yearly basis. The deadline for completed applications to CASPA is September 1. Interviews are conducted from the early fall through mid-November. Classes begin in late May/early June.

## Master of Health Science

- Advanced Medical Imaging and Leadership (<http://catalog.qu.edu/graduate-studies/health-sciences/advanced-medical-imaging-and-leadership-program>)
- Cardiovascular Perfusion (<http://catalog.qu.edu/graduate-studies/health-sciences/cardiovascular-perfusion-mhs>)
- Biomedical Sciences (<http://catalog.qu.edu/graduate-studies/health-sciences/medical-laboratory-sciences-mhs>) with concentrations in:
  - Medical Sciences
  - Microbiology
- Pathologists' Assistant (<http://catalog.qu.edu/graduate-studies/health-sciences/pathologists-assistant-mhs>)
- Physician Assistant (<http://catalog.qu.edu/graduate-studies/health-sciences/physician-assistant-mhs>)
- Radiologist Assistant (<http://catalog.qu.edu/graduate-studies/health-sciences/radiologist-assistant-mhs>)

## Master of Social Work

- Master of Social Work (<http://catalog.qu.edu/graduate-studies/health-sciences/social-work-msw>)

## Doctoral Degrees

- Entry-Level Professional Doctor of Occupational Therapy (OTD) (<http://catalog.qu.edu/graduate-studies/health-sciences/occupational-therapy-entry-level-otd>)
- Online Post-Professional Occupational Therapy Doctorate (OTD) (<http://catalog.qu.edu/graduate-studies/health-sciences/occupational-therapy-online-otd>)
- Entry-Level Doctor of Physical Therapy (DPT) (<http://catalog.qu.edu/health-sciences/physical-therapy/entry-level-physical-therapy-dpt/#programstext>)

## Certificate Programs

- Online Certificate of Advanced Graduate Studies in Occupational Therapy (<http://catalog.qu.edu/graduate-studies/health-sciences/occupational-therapy-certificate>) (Post-Professional)

## Advanced Medical Imaging & Leadership (AMI)

### AMI 515. Introduction to Magnetic Resonance Imaging. 3 Credits.

Magnetic resonance imaging is studied as it pertains to diagnostic imaging. Topics include mathematics, physical principles, imaging concepts, equipment, image quality, clinical applications and biologic effects of MRI. Prerequisite: ARRT certification or permission of the department.

**Offered:** Every year, Summer

### AMI 515L. Magnetic Resonance Imaging Principles I - Lab Practicum. 1 Credit.

This course demonstrates the principles presented in the didactic component of the course, AMI 515, Introduction to Magnetic Resonance Imaging. This lab complement enables the student to develop hands-on skills with the Toshiba Vantage 1.5 Tesla Magnetic Resonance Imaging scanner. Training includes the operation of the hardware and software components of the equipment with the objective to optimize image quality. This course also influences the student's development of patient-care skills dealing with claustrophobia and safety concerns regarding MRI. Prerequisite: ARRT certification or permission of the department.

**Offered:** Every year, Summer

### AMI 516. Advanced MRI Principles and Imaging. 3 Credits.

This course is designed for the student who has successfully passed AMI 515 (Introduction to Magnetic Resonance Imaging) and/or for the technologist actively working in the MRI field. The main objective for this course is to expand on the basic MRI physics and advanced MRI imaging applications.

**Offered:** Every year, Fall

### AMI 516L. Magnetic Resonance Imaging Principles II - Lab Practicum. 1 Credit.

This course demonstrates the principles presented in the didactic component of the course, AMI 516 (Advanced MRI Principles and Imaging). This lab complement enables the student to further develop hands-on skills with the Toshiba Vantage 1.5 Tesla Magnetic Resonance Imaging scanner and expand upon the basic MRI physics and advanced imaging applications. Training includes the operation of the hardware and software components of the equipment with the objective to optimize image quality. This course also influences the student's continued development of patient care skills dealing with claustrophobia and safety concerns regarding MRI.

**Offered:** Every year, Fall

### AMI 517. Magnetic Resonance Imaging Clinical I. 2 Credits.

This practicum involves providing clinical experience in the field of magnetic resonance imaging (MRI) at various facilities, including affiliated hospitals and imaging centers. Students attending clinic perform examinations in MRI under the direct or indirect supervision of a certified radiologic technologist. The experience gained through these rotations continually supports the need to obtain quality diagnostic images while promoting and maintaining a safe work environment as well as appropriate patient care. Prerequisite: Successful completion of all previously sequenced programmatic coursework.

**Offered:** Every year, Fall

### AMI 518. Magnetic Resonance Imaging Clinical II. 2 Credits.

This practicum is a continuation of AMI 517 and involves providing clinical experience in the field of magnetic resonance imaging (MRI) at various facilities, including affiliated hospitals and imaging centers. Students attending clinic perform examinations in MRI under the direct or indirect supervision of a certified radiologic technologist. The experience gained through these rotations continually supports the need to obtain quality diagnostic images while promoting and maintaining a safe work environment as well as appropriate patient care. Prerequisite: Successful completion of all previously sequenced programmatic coursework.

**Offered:** Every year, Spring

### AMI 523. Advanced Sectional Anatomy. 3 Credits.

This sectional anatomy course includes head, thorax, abdomen, pelvis and extremities. In addition to coronal, sagittal and axial imaging examined, oblique sections and three-dimensional reconstruction are included. Only for students enrolled in the AMI program.

**Offered:** Every year, Summer

### AMI 530. Mammography and Bone Densitometry Clinical I. 2 Credits.

This practicum involves providing clinical experience in the field of mammography and bone densitometry at various facilities, including affiliated hospitals and imaging centers. Students attending clinic perform examinations under the direct or indirect supervision of a certified radiologic technologist. The experience gained through these rotations continually supports the need to obtain quality diagnostic images while promoting and maintaining a safe work environment as well as appropriate patient care. Prerequisite: Successful completion of all previously sequenced programmatic coursework.

**Offered:** Every year, Fall

### AMI 531. Mammography and Bone Densitometry Clinical II. 2 Credits.

This practicum is a continuation of AMI 530 and involves providing clinical experience in the field of mammography and bone densitometry at various facilities, including affiliated hospitals and imaging centers. Students attending clinic perform examinations under the direct or indirect supervision of a certified radiologic technologist. The experience gained through these rotations continually supports the need to obtain quality diagnostic images while promoting and maintaining a safe work environment as well as appropriate patient care. Prerequisite: Successful completion of all previously sequenced programmatic coursework.

**Offered:** Every year, Spring

### AMI 534. Bone Densitometry. 1 Credit.

This distance learning course provides students with an overview of the history of bone densitometry as well as knowledge in the areas of osteoporosis and bone health, equipment, quality control, patient preparation and safety, and scanning. The course encompasses didactic components to cover all relevant material currently consistent with the ARRT certification examination. Prerequisite: ARRT Registered Radiologic Technologist.

**Offered:** Every year, Summer Online

**AMI 537. Computed Tomography Clinical I. 2 Credits.**

This practicum involves providing clinical experience in the field of computed tomography (CT) at various facilities, including affiliated hospitals and imaging centers. Students attending clinic perform examinations in CT under the direct or indirect supervision of a certified radiologic technologist. The experience gained through these rotations continually supports the need to obtain quality diagnostic images while promoting and maintaining a safe work environment as well as appropriate patient care. Prerequisite: Successful completion of all previously sequenced programmatic coursework.

**Offered:** Every year, Fall

**AMI 538. Introduction to CT Scanning. 3 Credits.**

Computed tomography (CT) scanning as it pertains to diagnostic imaging is studied. Topics include principles, physics, image reconstruction, equipment, image quality, radiation dose, specialized techniques, diagnostic applications and some cross-sectional anatomy. Prerequisite: ARRT certification or permission of the department.

**Offered:** Every year, Summer

**AMI 538L. Computed Tomography Lab I. 1 Credit.**

The course demonstrates the principles presented in the didactic component of the course, AMI 538, and enables the student to develop hands-on skills with the Toshiba Aquilion 64 slice computed tomography unit. Training includes the operation of the hardware and software components of the equipment with the objective to optimize image quality and minimize patient radiation dose. Prerequisite: ARRT certification or permission of the department.

**Corequisites:** Take AMI 538.

**Offered:** Every year, Summer

**AMI 539. Computed Tomography Clinical II. 2 Credits.**

This practicum is a continuation of AMI 537 and involves clinical experience in the field of computed tomography at various facilities, including affiliated hospitals and imaging centers. Students attending clinic perform examinations in CT under the direct or indirect supervision of a certified radiologic technologist. The experience gained through these rotations continually supports the need to obtain quality diagnostic images while promoting and maintaining a safe work environment as well as appropriate patient care. Prerequisite: Successful completion of all previously sequenced programmatic coursework.

**Offered:** Every year, Spring

**AMI 540. Principles of Mammography. 3 Credits.**

This course provides an overview of the history of mammography as well as fundamental knowledge in the areas of anatomy, physiology and pathology of the breast, mammographic equipment and instrumentation, positioning and technique for mammography. Also covered are methods of patient education and quality control. The course prepares students for the ARRT Mammography Certification Examination and meets all ACR/FDA training requirements. Prerequisite: ARRT certification or permission of the department.

**Offered:** Every year, Summer

**AMI 541L. Mammography and Bone Densitometry Lab. 2 Credits.**

The course demonstrates the principles presented in the didactic component of the courses, AMI 534 and AMI 540, and enables the student to develop hands-on skills with the on-site Hologic Mammography and Bone Densitometry units. Training includes the operation of the hardware and software components of the equipment with the objective to optimize image quality and minimize patient radiation dose. Only for students enrolled in the AMI program.

**Offered:** Every year, Summer

**AMI 545. Women's Health and Imaging. 3 Credits.**

This course provides a thorough look at women's health and disease with a focus on diagnostic imaging. Students examine common health factors for females including pathophysiology, family history, socioeconomic status and diagnostic procedures. This course investigates common health topics for the betterment of overall care of self, community and the health care consumer enabling the health professional to answer questions and have a general understanding of the diseases that may be encountered in health care practice. Program content is dynamic and is modified each year to represent the most current data and statistics. Prerequisite: Successful completion of all previously sequenced programmatic coursework.

**Offered:** Every year, Fall

**AMI 560. Pathology for CT and MRI Technologists. 3 Credits.**

This course covers identification, pathophysiology and pattern recognition of common pathologies observed in computed tomography and magnetic resonance imaging. Normal and abnormal comparisons are presented. Prerequisite: Successful completion of all previously sequenced programmatic coursework.

**Offered:** Every year, Spring

**AMI 570. Capstone I. 1 Credit.**

This capstone course is the first in the advanced medical imaging curriculum, which integrates advanced imaging and business course material. Students begin developing a consulting/case project that is relevant to current and emerging practice areas in imaging. Students apply knowledge of project management, critical analysis and professional presentations. Prerequisite: Successful completion of all previously sequenced programmatic coursework.

**Offered:** Every year, Fall

**AMI 575. Capstone II. 3 Credits.**

This final capstone course integrates the knowledge and skills gained throughout the program. The course focuses on the design and implementation of a consulting case/project, including a comprehensive analysis of organizational issues and proposal of appropriate recommendations and implementation plans. The result is a professionally written consulting paper and/or presentation. Prerequisite: Successful completion of all previously sequenced programmatic coursework.

**Offered:** Every year, Spring

## Biomedical Sciences (BMS)

**BMS 502. Research Methods. 4 Credits.**

This course involves topics related to developing scientific, analytical and laboratory skills, including written and oral communication, critical thinking and reasoning, scientific inference and information literacy. The purpose of the course is to examine, discuss and perform current methods used by research scientists and health care workers. Topics include recombinant DNA and protein techniques, Enzyme Linked Immunosorbent Assays, as well as experimental design and data analysis.

**Offered:** Every year, Fall and Spring

- BMS 508. Advanced Biology of Aging.** **3 Credits.**  
Why we age has been the eternal question and the most unsolved mystery in the history of mankind. However, we are gradually able to elucidate some of the secrets that regulate aging processes. This course focuses on the fundamental physiological deviations that occur during the aging process in individual tissue and organ systems and the various theories that attempt to define the reasons for these deviations. The course also emphasizes pathologies related to aging that are time regulated alterations in cellular, physiological and biochemical functions.  
**Offered:** As needed
- BMS 510. Biostatistics.** **3 Credits.**  
This course covers the application of statistical techniques to the biological and health sciences. Emphasis is on mathematical models, collection and reduction of data, probabilistic models estimation and hypothesis testing, regression and correlation, experimental designs and non-parametric methods.  
**Offered:** As needed
- BMS 511. Writing for Scientists.** **3 Credits.**  
Students develop skills in expository writing in the context of scientific forms. This course covers how to construct a hypothesis and develop an argument through analysis and critical thinking, how to write and present research papers, and other related topics. Intensive written exercises draw on student experience to clarify professional expression in practical situations. Readings include journalistic and scientific articles.  
**Offered:** As needed
- BMS 515. Advanced Pathophysiology I.** **3 Credits.**  
Essential concepts of pathophysiology are emphasized. Normal function and selected disorders are studied especially as they relate to homeostatic and defense/repair mechanisms. Where appropriate the course includes clinical correlations of disease states with symptoms and physical findings.  
**Offered:** Every year, Fall
- BMS 516. Advanced Pathophysiology II (NUR 522).** **3 Credits.**  
Concepts of pathophysiology are continued in this course, with an emphasis on selected disorders of the human system. Relationships between normal physiologic function, pathogenesis and pathology are discussed. The course includes clinical correlations of disease states with physical and laboratory findings.  
**Prerequisites:** Take BMS 515.  
**Offered:** Every year, Spring
- BMS 517. Human Embryology.** **3 Credits.**  
This course considers the fundamental processes and mechanisms that characterize the embryological development of the human organism. Knowledge of the developing human serves as a basis for understanding normal relationships of body structures and causes of congenital malformation. Emphasis is on clinical as well as classical embryology.  
**Offered:** Every year, Fall
- BMS 518. Pathophysiology.** **3 Credits.**  
Disease processes are studied as they relate to normal physiological and homeostatic mechanisms, basic pathology, pathogenesis, and defense/repair mechanisms. Where appropriate, the course includes some clinical correlations of disease states with signs, symptoms and lab findings. This course also is offered online in the spring.  
**Offered:** Every year, Fall and Summer
- BMS 520. Neuropharmacology.** **3 Credits.**  
This course explores the effect of drugs on cells, synapses and circuits within the nervous system. Students examine neurotransmitter and neuromodulatory systems in depth as pharmacotherapeutic targets for the treatment of psychiatric and neurological disorders. Students also comprehensively evaluate the effect of drugs on cognition and behavior.  
**Offered:** As needed
- BMS 521. Advances in Hematology.** **3 Credits.**  
This course covers fundamental concepts and advances in human hematology including an in-depth study of the function, physiology and diseases associated with blood cells, hematopoiesis, bone marrow examination, evaluation of red cell morphology, disease processes that lead to abnormal red cell morphology, anemias and thalassemias, white blood cell differentiation, and white blood cell disorders both benign and malignant, in-depth discussion of the morphologic and immunologic classification of leukemias, a review of myelodysplastic syndromes, myeloproliferative disorders, lymphomas and lipid storage disease and platelets. Emphasis on identifying normal and abnormal WBC and RBC and indices as leads to diagnosis using the hemogram, blood smears and case studies. Course includes an overview of general hematological methods and molecular hematologic techniques used in the diagnosis of blood cells disorders.  
**Offered:** Every year, Fall
- BMS 522. Immunology.** **3 Credits.**  
This course examines theories, techniques and recent advances in immunology and the latest knowledge on immunoglobulins, complement, the role of T and B cells in immune response study of allergy, tumor and transplantation immunology, and autoimmune diseases. The principles of immunology and how they apply to the diagnostic laboratory are discussed. Techniques studied include immuno- and gel-electrophoresis and fluorescent antibodies.  
**Offered:** Every year, Fall
- BMS 522L. Immunology Lab.** **1 Credit.**  
This is an interactive, hands-on, project-based laboratory course examining various aspects of the human immune system, including both the innate and adaptive immune response. Students will gain experience with standard laboratory techniques such as ELISAs, gel electrophoresis, Western Blotting, with an emphasis on quantitative reasoning and critical thinking. This course must be taken in conjunction with BMS 522 lecture.  
**Corequisites:** Take BMS 522.  
**Offered:** Every year, Fall
- BMS 525. Vaccines and Vaccine Preventable Diseases.** **3 Credits.**  
This immunology course involves the investigation of vaccines and vaccine preventable diseases. The purpose of the course is to examine and discuss the current understanding of vaccinations, as well as the historical and current implication of vaccine preventable diseases. By the end of the semester, students should gain knowledge about vaccine preventable diseases, understand how vaccines work, how they are made, who recommends vaccines, the childhood vaccination schedule, when they should be given and why they are still necessary. Most importantly, students should be able to explain why vaccines are safe, and to be able to debunk the current myths and misconceptions regarding vaccines. Upper-level undergraduates may take course with permission.  
**Offered:** Every year, Spring



- BMS 526. Epidemiology. 3 Credits.**  
This graduate-level course in epidemiology directs itself toward application of epidemiological principles. The course involves analysis of prospective and retrospective studies, cross-sectional studies and experimental epidemiology. Both communicable and chronic disease case studies are used, as well as case studies of occupationally induced diseases. The use of biostatistics in epidemiological studies is stressed. This course covers basic epidemiology principles, concepts and procedures useful in the surveillance and investigation of health-related states or events.  
**Offered:** Every other year, Fall
- BMS 527. Pharmacology. 3 Credits.**  
This course provides students with knowledge of the foundations and advances in pharmacology. The first third of the class covers the basic principles of the FDA drug process, pharmacodynamics, pharmacokinetics, therapeutics and toxicology. The rest of the course is devoted to clinical review of the basic classes of drugs.  
**Offered:** Every year, Spring
- BMS 528. Advanced Clinical Parasitology. 4 Credits.**  
This course presents an advanced study of protozoan and helminth parasites of humans. Lecture focuses on the epidemiology and treatment of selected diseases. Laboratory focuses on clinical diagnosis, diagnostic techniques including immunodiagnostic techniques and advanced experimental life cycle studies using both living and preserved materials.  
**Offered:** Every year, Spring
- BMS 529. Medical Entomology. 4 Credits.**  
This course presents an advanced study of arthropods that pose health threats to humans: their recognition, life cycles and control. Emphasis is on those that serve as vectors of pathogenic organisms. Both preserved specimens and living materials collected by the class in field exercises are used in the lab.  
**Offered:** As needed
- BMS 530. Human Clinical Protozoology. 4 Credits.**  
In this advanced study of protozoan parasites of humans, lectures focus on the epidemiology, pathology and treatment of selected diseases. Labs focus on clinical diagnosis and diagnostic techniques including immunodiagnostic techniques using both living and preserved materials.  
**Offered:** As needed
- BMS 531. Human Clinical Helminthology. 4 Credits.**  
This course provides students with a fundamental understanding of the etiology, pathology, symptomology, treatment and epidemiology of diseases caused by helminth parasites. The course has both a lecture and lab component with the laboratory component emphasizing diagnosis.  
**Offered:** As needed
- BMS 532. Histology and Lab. 4 Credits.**  
This course is intended for pathologists' assistant students with a background in basic descriptive microscopic anatomy. The lecture material includes the microscopic and ultramicroscopic structure of cells, tissues and organs with emphasis on biochemical composition and distribution as related to functional mechanisms. The laboratory work involves the preparation of microscope slides of normal vertebrate tissues, including those of humans, for histological and histochemical studies as the student may expect to encounter in the clinical laboratory.  
**Offered:** Every year, Summer
- BMS 532L. Histology Lab. 0 Credits.**  
Lab to accompany BMS 532. (3 lab hrs.)  
**Offered:** Every year, Fall and Summer
- BMS 533. Air, Water and Soil Microbiology. 4 Credits.**  
This in-depth graduate course examines the ecology of microorganisms in the water and air, as well as the medical and public health considerations of these organisms. Students explore the role of bacteria, algae, virus, protozoa and fungi in the air, soil and both natural and treated water. A lab is included that surveys standard techniques, as well as investigates innovative and experimental techniques in this exciting field of study.  
**Offered:** As needed
- BMS 535. Histochemistry and Lab. 3 Credits.**  
This course is intended for pathologists' assistant students with a background in basic descriptive microscopic anatomy. The lecture material includes the microscopic and ultramicroscopic structure of cells, tissues and organs with emphasis on biochemical composition and distribution as related to functional mechanisms. The lab work involves the preparation of microscope slides of normal vertebrate tissues, including those of humans for histological and histochemical studies as the student may expect to encounter in the clinical laboratory.  
**Offered:** Every year, Spring
- BMS 535L. Histochemistry Lab. 0 Credits.**  
This lab accompanies BMS 535.  
**Offered:** Every year, Spring
- BMS 536. Endocrinology. 3 Credits.**  
This course introduces students to 1) an intensive understanding of the mechanism of hormone action; 2) the importance of the interrelationship among all hormones; 3) a detailed clinical situation dealing with hormonal aberrations; and 4) a theoretical and practical method for hormone assays.  
**Offered:** As needed
- BMS 542. Advanced Microbiology. 3 Credits.**  
This intensive classroom and lab study demonstrates the relevance and importance of microbiology in our society. Detailed studies illustrate the interactions between microorganisms and other organisms, especially man. The role of microbes in the food industry, pathology, protection from disease, environmental issues, recombinant DNA research and biotechnology also are discussed.  
**Offered:** As needed
- BMS 542L. Advanced Microbiology Lab. 0 Credits.**  
Lab to accompany BMS 542.  
**Offered:** As needed
- BMS 552. Toxicology. 3 Credits.**  
Biochemical toxicology is the branch of science that deals with events at the molecular level in which toxic compounds interact with living organisms. It is fundamental to the understanding of toxic reactions and therapeutic agents, and for the assessment of toxic hazards by chemicals and related substances in the environment. This course deals with compounds exogenous to normal metabolism, as well as metabolic intermediates, hormones, trace elements and other materials found in the environment. It examines the absorption, distribution, kinetics and elimination of such substances. Particular emphasis is placed upon the effects of toxic materials on neurotoxicity, hepatotoxicity, genetic toxicology and chemical carcinogenesis.  
**Offered:** As needed

- BMS 556. Seminar in Health Care Disparities.** **1 Credit.**  
The Centers for Disease Control and Prevention (CDC) defines health disparities as differences in health outcomes between various segments of the population which are mostly associated with socioeconomic status, race/ethnicity and level of education. This course investigates the cause and effect of health care disparities using an interdisciplinary approach. Students will also become familiar with the research literature on the topic from different points of view by being part of a literature review/journal club.  
**Offered:** As needed
- BMS 561. Immunohematology.** **3 Credits.**  
This course examines the current concepts of hematopoiesis, including red blood cell and white blood cell morphogenesis, blood banking, blood typing, donor selection, adverse transfusion reactions, ABO antigens/antibodies, crossmatching, the structure and function of the components of normal blood and bone marrow, pathological processes that occur in the blood and bone marrow, and the normal and abnormal events during hemostasis.  
**Offered:** Every other year, Fall
- BMS 562. Blood Coagulation and Hemostasis.** **3 Credits.**  
This study of the basic principles of hemostasis includes the vascular component, platelet physiology and function, coagulation factors/fibrin clot formation and fibrinolysis. Hereditary and acquired forms of hemorrhagic disorders and thromboembolic disease are examined in detail along with the test procedures for their diagnoses and the initiation of proper therapy.  
**Offered:** Every year, Spring
- BMS 563. Anemias.** **3 Credits.**  
This study of those classes of disorders related to abnormal red cell pathophysiology includes both intracorporeal and extracorporeal defects. Erythropoiesis and basic red cell metabolism are briefly reviewed. Etiologies, differential diagnoses, and treatment of anemias are discussed in-depth.  
**Offered:** Every year, Fall
- BMS 564. Fundamentals of Oncology.** **4 Credits.**  
This course presents a study of the chemical and biological basis of carcinogenesis, natural history of human cancer, biochemistry of cancer, various aspects of experimental oncology including tumor immunology, and factors affecting survival and multiplication of cancer cells in the body. Delivery methods include weekly discussions on original research papers that correlate clinical studies with the molecular mechanisms presented in lecture.  
**Offered:** Every year, Spring
- BMS 565. Leukemia.** **3 Credits.**  
This course includes in-depth discussions with emphasis on the major forms of leukemia (ALL, CLL, AGL, CGL), current methods of blood component therapy and chemotherapy, the role of infections, immunological diagnostic advances, psychiatric and social aspects in patient management and recent advances in leukemia research. The purpose of the course is to enhance knowledge and understanding of those students who have had an introductory course in hematology and those who are actively involved in clinical or research hematological laboratories.  
**Offered:** Every year, Spring
- BMS 569. Antimicrobial Therapy.** **3 Credits.**  
This graduate-level course explores the antimicrobial agents used to treat infectious diseases by inhibiting microbial growth and survival. This interactive, discussion-based class investigates the history, current status and future directions of antimicrobial drugs with an emphasis on antibacterial and antiviral chemotherapeutic agents. Topics include the mode of action and efficacy of drugs, as well as the development, spread and mechanisms of drug resistance. Upper-level undergraduates may take this course with permission.  
**Offered:** Every year, Spring
- BMS 570. Virology.** **4 Credits.**  
This course presents a study of human and animal viruses, viral diseases, biochemical properties, and classification methods of isolation and identification of viral agents; preparation and inoculation of tissue culture, animals and embryonated eggs, immunological techniques, and antiviral chemotherapy.  
**Offered:** Every year, Spring
- BMS 572. Pathogenic Microbiology.** **4 Credits.**  
This graduate microbiology course involves the study of medically important microbes, with a particular emphasis on the pathology associated with human infection. Students examine the underlying principles of microbial pathogenesis, including elements of structural biology, epidemiology, immunology and pathology. They also survey microbial organisms that plague mankind today.  
**Offered:** Every year, All
- BMS 573. Mycology.** **3 Credits.**  
The morphology, taxonomy and classification of fungi and yeasts of medical importance are studied in this class. Laboratory exercises include isolation and identification techniques of selected human pathogens.  
**Offered:** Every other year, Fall
- BMS 574. Microbial Physiology.** **4 Credits.**  
Students are introduced to the growth of microbial cells, including growth genetics and measurements and energy. Emphasis is placed on understanding new techniques and practical information for use in medicine, industry and research.  
**Offered:** As needed, All
- BMS 575. Food Microbiology.** **4 Credits.**  
This applied course in microbiology is concerned with the microorganisms involved in the manufacture and spoilage of foods. Major pathogens that may be transmitted via foods are discussed. Laboratory stresses both identification of food-associated organisms and standard microbiological procedures used to determine the quality and safety of foods. Upper-level undergraduates may take course with permission.  
**Offered:** Every year, Summer
- BMS 576. Drug Discovery and Development.** **3 Credits.**  
The material presented in this course encompasses the process of drug discovery and development. Topics covered include many aspects of drug development such as target identification, evaluation and screening, all phases of clinical development and post-marketing activities. The material presented is across drug classes, with a particular focus on psychoactive and neurology compounds.  
**Offered:** Every year, Fall
- BMS 578. Cellular Basis of Neurobiological Disorders.** **3 Credits.**  
A detailed overview of neurobiological disorders at the molecular level is presented. Recent advances in gene cloning to identify causes for some of these disorders are discussed in detail.  
**Offered:** As needed

- BMS 579. Molecular Pathology.** 3 Credits.  
Molecular pathology is a new and rapidly growing discipline of laboratory medicine and includes applications of molecular techniques to all facets of diagnostic medicine. This course reviews the structure and function of nucleic acid sequences and provides an in-depth introduction to the molecular techniques exploited in the diagnosis of human diseases. The course focuses on currently employed applications to areas such as genetic disease, infectious disease, cancer and identity testing.  
**Offered:** Every year, Spring
- BMS 581. Receptors and Regulatory Mechanisms.** 3 Credits.  
The actions of cellular receptors, their coupling proteins and their associated effectors are discussed. Classification of receptors, modulation of receptors, detection of receptors by ligand binding assays and regulations of cell function by receptor action are presented to illustrate the importance of receptors in human physiology.  
**Offered:** As needed
- BMS 583. Forensic Pathology.** 3 Credits.  
This course is designed for students interested in the practical applications of science, specifically forensic medicine. Graphic examples of injuries and patterns of trauma serve as the backdrop for introduction to the understanding of the techniques involved in death investigation from the medical perspective.  
**Offered:** Every year, Spring
- BMS 584. Emerging and Re-emerging Infectious Diseases.** 3 Credits.  
This graduate-level course discusses current topics related to the plethora of infectious agents that besiege us. Emerging bacterial, protozoal and viral diseases, whether strictly animal or human or zoonotic pathogens, represent an increasing threat to animal and human health. The course examines, defines and discriminates between emerging, re-emerging and other infectious diseases; defines host and agent characteristics and risk factors; and analyzes social, economic and international trade changes, improper use of antibiotics, and multidrug resistant infectious agents as factors of emerging diseases. Upper-level undergraduates may take this course with permission.  
**Offered:** Every other year, Fall
- BMS 585. Outbreak Control.** 3 Credits.  
An outbreak or epidemic is the occurrence of more cases of disease than expected in a given area or among a specific group of people over a particular period of time. Usually, the cases are presumed to have a common cause or to be related to one another in some way. Public health agencies must decide whether to handle outbreaks without leaving the office, or spend the time, energy and resources to conduct field investigations. The most important reason to investigate is to learn enough about the situation to implement appropriate control and prevention measures. Investigations also enable researchers to advance knowledge about the disease, agent, risk factors and interventions; provide a way to respond to public, political or legal concerns; evaluate a health program's effectiveness and weaknesses; and provide training. When multiple agencies are involved in the investigation, coordination and communication become even more essential. Upper-level undergraduates may take this course with permission.  
**Offered:** Every other year, Fall
- BMS 588. Independent Study.** 1-6 Credits.  
**Offered:** As needed
- BMS 589. Independent Study.** 1-6 Credits.  
**Offered:** As needed
- BMS 591. The New Genetics and Human Future.** 3 Credits.  
We are the first creatures on Earth learning a 3.5-billion-year-old DNA language. The completion of the Human Genome Project and the emerging science of genomics will have dramatic ethical, legal and social implications. New genetics have the potential to affect all spheres of human life, including the ability to construct our destiny as a species. The goal of the course is not to give the answers to the numerous questions and dilemmas of our exciting and controversial future but to inspire interest and desire to pursue more study.  
**Offered:** Every year, Spring
- BMS 595. Transplantation Immunology.** 3 Credits.  
This course examines the current understanding of the major histocompatibility complex; the molecular basis of alloreactivity; and immunological mechanisms of allograft rejection, tolerance, and graft versus host disease. The objectives are: to understand the basics of the histocompatibility complex in relation to normal, disease and transplantation states, to understand the fundamental differences between immune responses to self antigens, foreign antigens, allo-antigens, and other non-self antigens, and to become familiar with the mechanisms underlying successful allogeneic transplantation and appreciate the concepts of immunosuppression and tolerance. Graduate level students are expected to complete a paper reviewing a current topic in transplantation. A basic understanding of immunology is desirable. Upper-level undergraduates may take course with permission.  
**Offered:** Every other year, Fall
- BMS 596. Immunology of Infectious Diseases.** 3 Credits.  
This graduate-level course examines the principal aspects of immune response to all types of infectious agents, with an emphasis on the immune system primarily as a host defense system. Students explore how the dialogue between different types of pathogen and the host immune system works, as well as the cross talk between the different members of the immune response. Infection is an encounter between a microbe and the host. In contrast to topics such as pathogenic microbiology, this course is aimed at the host side of the interaction, both from the innate immune response and the acquired immune response. Autoimmunity, sometimes a "side effect" of infectious disease, also is discussed. Upper-level undergraduates may take course with permission.  
**Offered:** Every other year, Fall
- BMS 597. Biomedical Sciences Internship.** 4 Credits.  
Students partake in a full-time professional work experience with a sponsoring organization. The experience brings together theory, application and current practice in the translational sciences. Journaling and discussion boards provide students with a reflective and intentional assessment of the field, their work and career development. Students submit a paper describing their experimental aims, design and outcomes as well as present their findings as a seminar open to the general university public.  
**Offered:** Every year, Summer
- BMS 598. Synaptic Organization of the Brain.** 3 Credits.  
Students study a variety of brain regions from both an anatomic and physiologic viewpoint to learn how these structures are organized at the synaptic level. The course includes a discussion of how these regions are associated with neurological disease. At the end of the class, students should: 1) understand the basic principles of neuronal functioning at the cellular and circuit level; 2) understand how the wide diversity of neural circuits seen in the brain generate specific functions in different regions; and 3) gain experience reading and interpreting scientific papers.  
**Offered:** Every other year, Fall

**BMS 599. Biomarkers. 3 Credits.**

Technological advances in molecular biology have provided an opportunity to evaluate drug-disease relationships at the molecular and cellular level. The goal of this course is to introduce the concept of biomarkers and how they are used clinically. This course covers both theoretical concepts and practical applications of biomarkers. Topics include the rationale for biomarkers, study design, logistics of sample collection/storage, options and techniques for analysis, as well as current applications in health care, including drug safety, regulatory issues, ethical considerations and the future direction of biomarker applications.

**Offered:** Every year, Spring

**BMS 622. MED Cross-Listed Selective. 3 Credits.**

BMS course to be cross-listed with a MED Course.

**Offered:** Every year, All

**BMS 650. Thesis I. 4 Credits.**

Approval of one of the two thesis options-experimental laboratory research or nonlaboratory-based project-is required. The thesis topic may be handled as an original investigation or as an applied problem (e.g., clinical) so long as it is about a health-related problem. Typed copies of final draft, prepared in compliance with thesis-writing manual, must be submitted prior to issuance of diploma. Thesis projects must be completed within three years after registration for the thesis course.

**Offered:** As needed

**BMS 651. Thesis II. 4 Credits.**

Approval of one of the two thesis options-experimental laboratory research or nonlaboratory-based project-is required. The thesis topic may be handled as an original investigation or as an applied problem (e.g., clinical) so long as it is about a health-related problem. Typed copies of final draft, prepared in compliance with thesis-writing manual, must be submitted prior to issuance of diploma. Thesis projects must be completed within three years after registration for the thesis course.

**Offered:** As needed

**BMS 670. Comp Exam/Biomedical Sciences. 2 Credits.**

The comprehensive examination is a requirement of the non-thesis option of the Biomedical Sciences program. The purpose of the exam is twofold. First, it ascertains if the student possesses both the broad and specific knowledge expected of someone holding a master's degree. Second, it inquires if the student has been able to integrate knowledge obtained from individual courses into unified concepts that link the student's own specialization to other fields of study. A written essay exam is administered and graded by the exam course committee or individual faculty. Students should schedule an appointment with the program director before registering for the comprehensive exam course.

**Offered:** As needed

**BMS 688. Independent Study. 1-6 Credits.**

**Offered:** As needed

**BMS 689. Independent Study. 1-4 Credits.**

**Offered:** As needed

## Health Science Studies (HSC)

**HSC 505. Interprofessional Community-Based Service Learning Seminar: Age-Related (HSC 205). 1 Credit.**

This course provides an opportunity to engage in active learning, implementing a program with a local community partner working with children/youth, adults or older adults. Students are required to participate in 10-15 hours of community engagement to observe and apply the concepts of interprofessional health care in a community-based setting. Community experience is supervised by faculty with expertise in analysis of community-based practice. Classroom/community engagement schedules will be determined. Course may be taken more than once.

**Offered:** Every year, All

**HSC 506. Interprofessional Community-Based Service Learning Seminar: International (HSC 206). 1 Credit.**

Students observe and apply various health/wellness concepts in an international community-based setting. Students are required to spend a minimum of 15 hours at an international site to engage in active learning by implementing a program with an international community partner. Course is taught by faculty with expertise in the analysis of community-based practice. Classroom/community engagement schedules will be determined. This course may be taken more than once. Application process for international experiences required.

**Offered:** Every year, All

**HSC 507. Interprofessional Community-Based Service Learning Seminar: Special Populations (HSC 207). 1-2 Credits.**

This course involves active learning implementing a program with a local community partner working with at-risk population. Students are required to participate in 10-15 hours of community engagement to observe and apply the concepts of interprofessional health care in a community-based setting. Faculty with expertise in the analysis of community-based practice lead discussions and community engagement related to population health in the local community. This course may be taken more than once. Offerings include MTW section during Thanksgiving week.

**Offered:** Every year, All

**HSC 599. Health Science Independent Study. 1-5 Credits.**

**Offered:** As needed

## Occupational Therapy (OT)

**OT 501F. Immersive Fieldwork Experience in Psychosocial and Mental Health Practice (Fieldwork IIa). 3 Credits.**

This six- to seven-week fieldwork experience provides students with in-depth opportunities to integrate theory, research and best practice in psychosocial and/or mental health settings. The experience promotes clinical reasoning, reflective practice and professionalism while enhancing one's therapeutic use of self. Practice settings may include traditional mental health agencies, community-based programs and nontraditional sites that promote psychological and social factors for occupational engagement and well-being.

**Offered:** Every year, Summer

**OT 501S. Fieldwork Seminar. 1 Credit.**

This course runs concurrently with the mental health/psychosocial summer experience and is delivered in an online format. It is designed to enhance professional and clinical reasoning while promoting the integration of theory to practice. Students are encouraged to critique the system of care as it relates to best practice for an identified population.

**Offered:** Every year, Summer



**OT 502. Pharmacology in Occupational Therapy Practice. 2 Credits.**

This course addresses the pharmacokinetics, side effects and drug interactions of medications prescribed to clients who are commonly referred for occupational therapy services. The course emphasizes the role of the occupational therapist in medication management as a health maintenance activity and in monitoring the impact of drug therapy on the therapeutic process and occupational performance of clients.

**Offered:** Every year, Summer

**OT 511. Administration and Management in Occupational Therapy. 4 Credits.**

This class introduces students to the daily management functions of an occupational therapy department including planning, organizing, directing, controlling, and supervision of occupational therapy assistants and other department personnel. The course integrates students' knowledge of interventions with information related to the delivery of occupational therapy services. Topics include managed care, quality assurance, leadership, regulatory agencies, models of practice, ethics, and consultation. Students gain hands-on experience with budgeting, marketing, program evaluation, and ethical problem-solving in administration.

**Offered:** Every year, Fall

**OT 522L. Biomechanical Interventions in Occupational Therapy. 2 Credits.**

This lab provides students with "hands-on" learning experience and clinical reasoning in the safe and effective application of biomechanically-oriented interventions including physical agents and modalities, orthotic fitting and fabrication, and therapeutic exercise. Students also are introduced to prosthetics and the role of occupational therapy during pre-prosthetic and prosthetic training. Students apply clinical reasoning to identify the most appropriate biomechanical interventions based on the client's evaluation and socio-cultural factors to facilitate occupational performance. Prerequisite: Matriculation as an MOT student.

**Offered:** Every year, Fall

**OT 531. Sensory Processing and Integration. 3 Credits.**

This course provides an in-depth analysis of sensory processing and integration with a focus on clinical reasoning to understand and appreciate the impact of these processes on individuals, populations and community environments. Opportunities are provided to learn specific intervention strategies for individuals, as well a systems approach emphasizing the importance of educating the team of people who support these individuals in varying contexts, to facilitate functional participation and engagement in purposeful and productive activities. Prerequisite: Matriculation as an MOT student.

**Offered:** Every year, Fall and Spring

**OT 531F. Sensory Processing and Integration Fieldwork. 1 Credit.**

This structured fieldwork experience enables students to observe and analyze the impact of Ayres' Sensory Integration intervention. The settings utilized are equipped to provide clinical application of principles learned in the OT curriculum and shall be supervised by qualified personnel who specialize in sensory processing and integration. Prerequisite: Compliance with OT fieldwork requirements through MyRecordTracker.

**Offered:** Every year, Fall and Spring

**OT 531L. Sensory Processing and Integration Lab. 1 Credit.**

This course provides practical experientials designed to assimilate sensory processing and integration concepts. Evaluation, direct intervention and collaboration strategies in traditional environments are emphasized. Additionally, application of sensory integrative concepts into currently relevant community-based contexts and systems are explored to facilitate functional participation and engagement in purposeful, context-specific activities. Prerequisite: Matriculation as an MOT student.

**Offered:** Every year, Fall and Spring

**OT 532. Neurorehabilitation in Occupational Therapy. 3 Credits.**

This course provides a comprehensive overview of specialized interventions used by occupational therapy practitioners in neurorehabilitation. This course integrates the use of various theoretical models/frames of reference, current evidence and clinical/professional reasoning pertinent to the OT process in neurorehabilitation practice. Key concepts in interprofessional practice and health literacy are incorporated. Prerequisite: Matriculation as an MOT student.

**Offered:** Every year, Fall and Spring

**OT 532F. Neurorehabilitation in Occupational Therapy Practice Fieldwork. 1 Credit.**

This course provides a structured fieldwork in neuro-rehabilitative settings and enables the student to observe, participate in, and document clinical encounters with clients undergoing OT evaluation and/or intervention. Students also have an opportunity to observe and/or engage in inter- and intra-professional collaboration, patient/client education and application of evidence-based practice. Emphasis is on applying theory into practice and the development of professional identity. Prerequisite: Compliance with OT fieldwork requirements per MyRecord Tracker.

**Offered:** Every year, Fall and Spring

**OT 532L. Neurorehabilitation in Occupational Therapy Lab. 1 Credit.**

This course complements OT 532 Neurorehabilitation in OT Practice in providing a comprehensive overview of specialized interventions used by occupational therapy practitioners in neurorehabilitation. Students have the opportunity to apply methods and techniques according to various theoretical models/frames of reference and current evidence-based interventions. Prerequisite: Matriculation as an MOT student.

**Offered:** Every year, Fall and Spring

**OT 540. Special Topics in Occupational Therapy. 1.5-3 Credits.**

This course provides an opportunity for students to delve deeper into the specialized knowledge of the profession with evidence-based, occupation-centered practice as its core subject. Students further explore the specialized roles of the occupational therapist beyond that of a direct provider of skilled services, such as organizational/community leader, educator, case manager, entrepreneur and consultant at the systems level. In addition, students learn various modes of care delivery and systems of care including but not limited to tele-health, community building/development and train-the-trainer; they also evaluate the outcomes of such modes.

**Offered:** Every year, Spring

**OT 541. Assistive Technology in Occupational Therapy. 2 Credits.**

This course provides students with exposure to advanced intervention techniques related to assistive technology in occupational therapy. The course focuses on application of assistive technology across the lifespan, and thus emphasizes use of both interventions in a variety of practice contexts and practice settings. Since technology options change rapidly, emphasis is on the clinical reasoning process used to select and evaluate interventions in rehabilitation, home, work, leisure and community technology-related practice areas. Prerequisite: Matriculation as an MOT student.

**Offered:** Every year, Fall

- OT 541L. Assistive Technology in Occupational Therapy Lab. 1 Credit.**  
This lab course provides students with hands-on experience in advanced intervention techniques related to assistive technology in occupational therapy. The course focuses on application of assistive technology across the lifespan, and thus emphasizes use of both interventions in a variety of practice contexts and practice settings. Since technology options change rapidly, emphasis is on the clinical reasoning process used to select and evaluate interventions in rehabilitation, home, work, leisure and community technology-related practice areas. Prerequisite: Matriculation as an MOT student.  
**Offered:** Every year, Fall
- OT 542. Work and Ergonomics. 3 Credits.**  
This course focuses on the occupation of work applied across the lifespan and to various practice contexts and worker challenges. The course addresses topics related to the occupation of work, including employment acquisition, job performance, volunteerism, and retirement. Work tasks and work demands are analyzed relative to physical, cognitive, social, organizational, and environmental factors that impact job performance. Modifications that optimize worker functioning are examined as prevention and as rehabilitation. Prerequisite: Matriculation as an MOT student  
**Offered:** Every year, Spring
- OT 550. OT Research Methods. 4 Credits.**  
This course addresses the importance of research in the practice of occupational therapy. The course examines the research theories and methods in occupational therapy practice. Students participate in designing and implementing entry-level research studies as well as analyzing and interpreting the professional literature. Students formulate the proposal for their spring capstone project.  
**Offered:** Every year, Fall
- OT 556. Professional Development. 3 Credits.**  
This distance learning course focuses on the current issues related to the roles of the student transitioning to professional. The course emphasizes linking theory to practice, self-analysis and reflection upon academic experience, and relating those to different facets of clinical and professional reasoning as a funding mechanism in practice. Continued professional growth through the development of understanding of personal and professional responsibilities as a practicing therapist and a commitment to lifelong learning and professional advocacy also are addressed. Grant writing is included.  
**Offered:** Every year, Spring
- OT 565. Integrative Case Studies. 2 Credits.**  
This course explores individual, group and population case studies of clients in occupational therapy. Students analyze each case using clinical reasoning, qualitative research strategies, frames of reference and best practices to develop integrative evaluation and intervention skills.  
**Offered:** Every year, Spring
- OT 570. Capstone Graduate Projects. 3 Credits.**  
This capstone course is a culminating experience in the occupational therapy curriculum, which integrates all course-based material and fieldwork experiences with practical application. Students design and execute a research or creative project that is relevant to current and emerging practice areas in occupational therapy. Students gain experience in project management, critical analysis and professional presentations.  
**Offered:** Every year, Spring
- OT 580. Fieldwork Level IIa. 6 Credits.**  
These supervised experiences provide the student with the opportunity to apply theory and clinical reasoning skills to the occupational therapy evaluation and intervention process for clients across the life span and in a variety of life environments. Students must abide by all fieldwork policies as listed in the program manual. Fieldwork is 12 weeks long.  
**Offered:** Every year, Summer
- OT 581. Fieldwork Level IIb. 6 Credits.**  
These supervised experiences provide the student with the opportunity to apply theory and clinical reasoning skills to the occupational therapy evaluation and intervention process for clients across the life span and in a variety of life environments. Students must abide by all fieldwork policies as listed in the program manual. Fieldwork is 12 weeks long.  
**Offered:** Every year, Fall
- OT 615. Critical Writing I. 3 Credits.**  
This course is the first in a sequence of courses focusing on scholarly reading and writing. Students investigate a specific area of interest, describe best practices as supported by evidence and theory and learn how to conduct a peer review of writing.  
**Offered:** Every year, Spring Online
- OT 616. Self Directed Study in Clinical Practice. 3 Credits.**  
This self-directed course focuses on each individual student's goals and objectives within an area of specialty practice. Students create a proposal and learning contract with objectives, methods and timelines to meet individualized learning goals toward certifications or in-depth learning of a particular topic. The purpose of this course is to work toward individualized professional development goals.  
**Offered:** Every year, Spring Online
- OT 620. Foundations in Teaching and Learning I. 3 Credits.**  
This course is the first in a series of courses focusing on advanced topics in teaching and learning. Students explore various theoretical frameworks regarding learning and the relationship between learning theory and occupational therapy. Students work to develop the ability to incorporate learning theory into their educational practice.  
**Offered:** Every year, Spring Online
- OT 621. Creating Effective Learning Environments and Experiences. 3 Credits.**  
This course is the second course in the series of courses focusing on advanced topics in teaching and learning. Building upon theoretical foundations explored in OT 620 Foundations in Teaching and Learning I, students explore various educational models and tools to enhance teaching and utilize design steps to develop professional, educational presentations.  
**Prerequisites:** Take OT 620.  
**Offered:** Every year, Summer Online
- OT 625. Special Topics in School-Based Practice I. 3 Credits.**  
This course is the first in a series of courses focusing on advanced topics in school-based practice. Students critique existing scholarship and professional documents regarding best practices in school-based practice, and identify and critique existing interventions utilized in school-based practice and their efficacy. Topics covered include legislations, assessment, intervention and whole school programming.  
**Offered:** Every year, Spring Online

**OT 626. Special Topics in School-Based Practice II. 3 Credits.**

This course is the second in a series of courses focusing on advanced topics in school-based practice. Students build upon work completed as part of OT 625 Special Topics in School-Based Practice I to develop a model of practice/intervention addressing "best practice" for practitioners working in school-based practice.

**Prerequisites:** Take OT 625.

**Offered:** Every year, Summer Online

**OT 630. CAGS Hand Therapy I. 3 Credits.**

This course is the first in a series of courses focusing on advanced topics in hand therapy. Students critique existing scholarship and professional documents regarding best practice in hand therapy practice, and identify and critique existing assessments and interventions utilized in hand therapy practice.

**Offered:** Every year, Spring Online

**OT 631. CAGS Hand Therapy II. 3 Credits.**

This course is the second in a series of hand therapy courses. Building on the first course, students continue to explore best practices and evidence and have the opportunity to synthesize their knowledge through a critique of clinical protocols and practice guidelines. The course culminates with a plan of action to further advance one's professional development.

**Offered:** Every year, Summer Online

**OT 635. Scholarly Use of Evidence in Writing. 3 Credits.**

This course is the second in a sequence of courses focusing on scholarly reading and writing. Emphasis on determining proper use of evidence occurs throughout the course. Synthesis of scholarly evidence and literature culminates in the creation of a manuscript for submission to a professional trade magazine or journal.

**Prerequisites:** Take OT 615.

**Offered:** Every year, Summer Online

**OT 640. Directed Study in Evidence-Based Practice. 3 Credits.**

Students learn the steps of the evidence-based practice continuum. Each student follows the steps using actual practice case studies from his/her individual practice sites and presents the responses to each step in the process to discover evidence to guide the practice case questions. Peer interaction and feedback is critical to the realistic development of evidence to guide practice decisions. A major assignment is to have each student participate in the writing of a systematic review or an evidence-based practice brief for the profession. Students complete a needs assessment of a particular site or practice area as well.

**Prerequisites:** Take OT 654.

**Offered:** Every year, Spring

**OT 650. Application of Theory and Exploration of Occupation. 3 Credits.**

This course explores occupation—the central construct of the profession, and occupational science as a disciplinary knowledge base of the profession. Students examine a variety of theories relevant to occupational therapy and analyze their practice using critical theory.

**Offered:** Every year, Spring

**OT 651. Systems. 3 Credits.**

Knowledge of health care delivery in the U.S. is fundamental to providing occupational therapy services. A key element to providing relevant health care services is an understanding of the broader systems that influence and drive delivery models. This course addresses the general systems model as applied to the delivery of health care services. System components are addressed including the resources, the internal processes, external influences, measurable outcomes and stakeholders in service delivery systems. The course examines the range of service delivery models in OT including the traditional medical model, school-based, community, educational, home health, hospice and telehealth, among others. The course prepares students to analyze the key components of delivery system and determine how OT services are optimized in specific models.

**Offered:** Every year, Fall

**OT 652. Doctoral Seminar. 1 Credit.**

Students develop learning strategies for doctoral work and explore contemporary leadership theory and create a professional development plan for doctoral work with goals and objectives related to becoming an agent of change.

**Offered:** Every year, Fall

**OT 653. Policy/Ethics. 2 Credits.**

The future leaders of the profession need an understanding of the political and legal policies impacting occupational therapy, as well as the ethics involved in decision making. Students explore the role of the occupational therapist in advocacy as well as the concepts of social justice. The impact of these policies and decisions are reviewed in relationship to all settings and the occupational as well as psychosocial well-being of the individual client and populations of clients.

**Offered:** Every year, Fall

**OT 654. Critical Inquiry of Scholarship. 3 Credits.**

This course is the first of a series of courses focusing on scholarship in the profession. Emphasis is placed on understanding qualitative and quantitative research methods and building a solid foundation needed to carry out a scholarly project. This course covers the scholarship process, with a focus on developing a question for scholarly exploration, ways of answering questions and approaches to analyzing results.

**Offered:** Every year, Fall

**OT 655. Professional Seminar. 3 Credits.**

This course integrates prior learning into the discussion of how to become an "agent of change" within systems. Topics include advocacy, leadership and leadership theories, group dynamics and change management. Student integrate this knowledge through the development of a program proposal and evaluation.

**Offered:** Every year, Summer

**OT 656. Critical Inquiry of Scholarship II. 4 Credits.**

This course is the second of a series of courses focusing on scholarship in the profession. Emphasis is placed on developing a proposal for a scholarly project. Drawing on the content of OT 654 students develop the background to the project and problem statement, questions guiding the project informed by theory, and write a design a scholarly proposal in regards to ethical policies and procedures necessary to conduct research.

**Prerequisites:** Take OT 640 OT 654.

**Offered:** Every year, Summer

**OT 660. Seminar: Innovations and Emerging Issues in Children and Youth. 3 Credits.**

The OT seminars OT 660 and OT 662 present core content that is the same for both courses during weeks one and two. The focus of the core weeks is on environmental scanning for evidence of change and locating evidence in the literature for that change. Weeks four through seven focus on the individual theme as selected by each student.

**Offered:** Every year, Fall

**OT 662. Seminar: Innovations and Emerging Issues in the Adult Health Care Continuum. 3 Credits.**

The OT seminars OT 660 and OT 662 present core content that is the same for both courses during weeks one and two. The focus of the core weeks is on environmental scanning for evidence of change and locating evidence in the literature for that change. Weeks four through seven focus on the individual theme as selected by each student.

**OT 670. Leadership in Program Development/Business. 3 Credits.**

Students analyze leadership styles as they relate to supervision in both public and private sectors. The course includes a review of skills required to be an entrepreneur, own a practice and navigate the policies required of a business.

**Offered:** Every year, Spring

**OT 671. Leadership in Higher Education. 3 Credits.**

Students analyze leadership styles as they relate to the educational setting for those interested in academia. The course also includes a discussion of transitions from practice to the educational setting.

**OT 680. Capstone I. 2 Credits.**

This capstone course is a culminating experience in the occupational therapy curriculum, which integrates all core material. Students design and execute a scholarly or creative project that is relevant to current and emerging practice areas in occupational therapy. Students gain experience in project management, critical analysis and professional presentations.

**Offered:** Every year, Fall

**OT 681. Capstone II. 2 Credits.**

This capstone course is a culminating experience in the occupational therapy curriculum, which integrates all core material. Students design and execute a scholarly or creative project that is relevant to current and emerging practice areas in occupational therapy. Students gain experience in project management, critical analysis and professional presentations.

**Offered:** Every year, Spring

**OT 699. OT Independent Study. 1-6 Credits.**

**Offered:** As needed

## Pathology (PA)

**PA 502. Medical Terminology: Advanced. 2 Credits.**

This course is intended for students enrolled in the pathologists' assistant program. Students study the etymology of medical and surgical terms with an emphasis on the principles of word analysis, construction and evolution. The course includes a review of anatomy and abstraction of current published case studies.

**Offered:** Every year, Summer

**PA 511. Human Microscopic Anatomy. 4 Credits.**

This course is intended for students enrolled in the pathologists' assistant program. Human anatomy at the light microscopic level is explored through a general and systemic approach using a lecture-lab combination. Students are introduced to primary tissues and their cellular components followed by system (organ) investigation morphologically that uses the light microscope emphasizing pattern recognition as the mechanism employed for tissue identification.

**Offered:** Every year, Fall

**PA 512. Human Anatomy. 4 Credits.**

This course is intended for students enrolled in the pathologists' assistant program. This course covers dissection of the human body with particular attention to the morphological relationships of individual organ systems. Emphasis is placed on internal anatomy as a major facet of this instruction that is designed for eventual autopsy evisceration and subsequent dissection.

**Offered:** Every year, Summer

**PA 512L. Human Anatomy Lab. 0 Credits.**

Lab to accompany PA 512.

**Offered:** Every year, Summer

**PA 513. Basic Human Pathology I. 3 Credits.**

This course is intended for students enrolled in the pathologists' assistant program. This series of lectures utilizes slides of gross and microscopic pathology starting with a general introduction to pathology covering inflammation and neoplasia, and then progressing to pathology by the systems such as cardiovascular, endocrine and gastrointestinal systems.

**Offered:** Every year, Fall

**PA 514. Basic Human Pathology II. 3 Credits.**

This course is intended for students enrolled in the pathologists' assistant program. This series of lectures utilizes slides of gross and microscopic pathology of specific areas of disease in a systemic approach including such specialty areas as dermatologic, perinatal, pediatric and forensic pathology as well as the genitourinary, musculoskeletal, respiratory and neuropathology systems.

**Offered:** Every year, Spring

**PA 515. Human Physiology. 4 Credits.**

This course is intended for students enrolled in the pathologists' assistant program. Various aspects of human physiology are examined, with emphasis on the physiologic and biochemical function. The fundamental functional principles for general and systematic organ systems are covered.

**Offered:** Every year, Summer

**PA 516. Clinical Pathology. 4 Credits.**

This course is intended for students enrolled in the pathologists' assistant program. Clinical relationships to disease are examined, highlighting such topics as hematology, chemistry, toxicology, serology, urinalysis, blood banking and cytology. Basic techniques and theoretical applications from a case history medical approach are emphasized.

**Offered:** Every year, Spring

**PA 517. Applied Anatomic Pathology. 4 Credits.**

This course is intended for students enrolled in the pathologists' assistant program. Basic principles of clinical history taking, physical examinations and general medical terms and symbols are studied. Emphasis is on autopsy and surgical techniques of evisceration and organ system dissection through lectures, films, slides and practical exposure.

**Offered:** Every year, Spring



**PA 518. Laboratory Management.****3 Credits.**

This course is intended for students enrolled in the pathologists' assistant program. The organization and function of an anatomic pathology laboratory is investigated to include ordering supplies, money management, computerization, laboratory safety, organization compliance (JACHO, CAP, OSHA) and quality assurance.

**Offered:** Every year, Fall**PA 520. Autopsy Pathology I.****6 Credits.**

This course is only for second-year pathologists' assistant students. This three-semester rotational, practical course on the techniques of autopsy dissection includes summarization of clinical histories and gross autopsy findings. The 12-month rotation involves several different hospitals in both community and university settings.

**Offered:** Every year, Summer**PA 521. Autopsy Pathology II.****6 Credits.**

This course is only for second-year pathologists' assistant students. This three-semester rotational, practical course on the techniques of autopsy dissection includes summarization of clinical histories and gross autopsy findings. The 12-month rotation involves several different hospitals in both community and university settings.

**Offered:** Every year, Fall**PA 522. Autopsy Pathology III.****6 Credits.**

This course is only for second-year pathologists' assistant students. This three-semester rotational, practical course on the techniques of autopsy dissection includes summarization of clinical histories and gross autopsy findings. The 12-month rotation involves several different hospitals in both community and university settings.

**Offered:** Every year, Spring**PA 523. Surgical Pathology I.****6 Credits.**

This course is only for second-year pathologists' assistant students. This is a three-semester inclusive practical course in methods of gross tissue description, dissection and preparation, fixation and storage of surgical specimens for light, immuno-fluorescent, immunochemical, frozen and electron microscopy. The 12-month rotation involves several different hospitals in both community and university settings.

**Offered:** Every year, Summer**PA 524. Surgical Pathology II.****6 Credits.**

This course is only for second-year pathologists' assistant students. This is a three-semester inclusive practical course in methods of gross tissue description, dissection and preparation, fixation and storage of surgical specimens for light, immuno-fluorescent, immunochemical, frozen and electron microscopy. The 12-month rotation involves several different hospitals in both community and university settings.

**Offered:** Every year, Fall**PA 525. Surgical Pathology III.****6 Credits.**

This course is only for second-year pathologists' assistant students. This three-semester inclusive practical course covers methods of gross tissue description, dissection and preparation, fixation and storage of surgical specimens for light, immuno-fluorescent, immunochemical, frozen and electron microscopy. The 12-month rotation involves several different hospitals in both community and university settings.

**Offered:** Every year, Spring**PA 526. Biomedical Photography.****4 Credits.**

This course is only for second-year pathologists' assistant students.

This is a team-taught course designed to give the pathologists' assistant student a basic background leading to practical application of photographic techniques used in the anatomic pathology laboratory. It also includes an introduction to the principles of imaging radiography. The course is divided into three parts over two summer-school semesters: basic photographic principles and technique; the theoretical and practical aspects of photomacrography and photomicrography as they are applied to anatomic specimens and imaging radiology.

**Offered:** Every year, Summer**PA 535. Disease Mechanisms.****4 Credits.**

This course is only for second-year pathologists' assistant students.

This course investigates how the normal physiology of the human body is altered in disease states. The mechanisms by which diseases become established, cause damage and alter organ system function are established. Natural body responses and therapeutic measures are examined for their mode of action, side effects and after affects.

**Offered:** Every year, Fall

## Perfusion (PR)

**PR 500. Theoretical Foundations of Cardiovascular Perfusion.** 2 Credits.

This course exposes students to role expectations, practice, ethics and professionalism. Students gain an appreciation of the history of key individuals and progress through discoveries that influenced the development of current practice in cardiothoracic surgery and extracorporeal circulation. Students become familiar with the role of organizations that impact their field, including those responsible for overseeing national certification exams and continuing education programs. A minimum grade of B is required to progress.

**Offered:** Every year, Fall**PR 502. Systems Anatomy and Physiology I.****3 Credits.**

This course examines selected organ systems 503 procedures performed by the perfusionist. Students study the structure and function of the cardiovascular, lymphatic, immune and pulmonary systems. Emphasis is placed on group discussion and the application of knowledge to solving problems that arise in clinical situations. A minimum grade of B is required to progress.

**Offered:** Every year, Fall**PR 503. Systems Anatomy and Physiology II.****3 Credits.**

This course examines selected organ systems pertinent to cardiopulmonary bypass and related procedures performed by the perfusionist. Students study the structure and function of the nervous, hepatic, renal and endocrine systems. Emphasis is placed on group discussion and application of knowledge to solving problems that arise in clinical situations. A minimum grade of B is required to progress.

**Prerequisites:** Take PR 500 PR 502 PA 535 PR 508 PR 516.**Offered:** Every year, Spring

**PR 506. Pharmacologic Intervention in Cardiovascular Perfusion.****4 Credits.**

This course is an intensive study of pharmacokinetics, pharmacodynamics, mechanism of action, indications and contraindication of drugs administered to the patient undergoing cardiopulmonary bypass. Cardiovascular drugs, anticoagulants and anesthetic agents administered by the perfusionist are emphasized. Students also become familiar with many drugs used to treat other disease states that may be taken by patients with significant comorbidities. A minimum grade of B- is required to progress.

**Prerequisites:** Take PR 500 PR 502 PA 535 PR 508 PR 516.**Offered:** Every year, Spring**PR 508. Extracorporeal Circuitry and Laboratory I.****1 Credit.**

Students receive orientation in both the laboratory and the cardiac operating room to equipment operation and techniques applicable to providing extracorporeal circulation during cardiac surgical procedures. Emphasis is placed on developing student skills in researching best practice methods as found in the medical literature. Competent operation of equipment, including the heart lung machine, ventricular assist devices, intra-aortic balloon counterpulsation pump, and autologous blood recovery devices must be demonstrated. A minimum grade of B is required to progress.

**Offered:** Every year, Fall**PR 509. Extracorporeal Circuitry and Lab II.****1 Credit.**

This intensive study of the appropriate procedures for providing extracorporeal circulation for a variety of purposes includes operation of specialized medical devices, quality control and troubleshooting techniques. Intra-aortic balloon counterpulsation, autologous blood recovery and ventricular assist devices are covered. Students are expected to search recent medical publications and generate discussion in an attempt to resolve controversial issues pertaining to best practice. A minimum grade of B is required to progress.

**Prerequisites:** Take PR 500 PR 502 PA 535 PR 508 PR 516.**Offered:** Every year, Spring**PR 510. Surgical Techniques.****2 Credits.**

This course examines the cardiothoracic surgical procedures that require extracorporeal circulatory support. Students develop an understanding of the techniques used in numerous open-heart procedures performed on adults and children. Special application of extracorporeal circulation in rare surgical procedures is included. Students are required to view a number of these procedures in the operating rooms of affiliated institutions to increase their understanding of the skills required to perform these operations. A minimum grade of B is required to progress.

**Prerequisites:** Take PR 500 PR 502 PA 535 PR 508 PR 516.**Offered:** Every year, Spring**PR 512. Pediatric Perfusion.****4 Credits.**

This course presents a study of the embryological formation of the cardiopulmonary system, a description of congenital cardiopulmonary anomalies and the application of perfusion techniques during corrective surgical procedures. Students work both independently and in groups to evaluate the results of clinical studies that contribute to current thinking and practice in the specialized area of pediatric perfusion. A minimum grade of B is required to progress.

**Prerequisites:** Take PR 500 PR 502 PA 535 PR 508 PR 516.**Offered:** Every year, Spring**PR 514. Special Topics in Cardiovascular Perfusion.****2 Credits.**

This course explores less common and newly introduced procedures for perfusionists, including the use of investigational drugs that modify the biochemical impact of adult and infant extracorporeal membrane oxygenation, extracorporeal carbon dioxide removal, total artificial hearts and newly introduced ventricular assist devices. Old standards of practice are reexamined in the light of new evidence. A minimum grade of B is required to progress.

**Prerequisites:** Take PR 503 PR 506 PR 509 PR 510 PR 512.**Offered:** Every year, Spring**PR 516. Physiologic Monitoring.****4 Credits.**

This course covers monitoring of the physiological impact of extracorporeal circulation, administration of drugs, blood products and anesthetic agents on the patient undergoing surgery requiring cardiopulmonary bypass. Monitoring of intravascular arterial and venous pressures in the systemic and pulmonary circulations, cardiac output measurement are covered. An emphasis is placed on 12-lead electrocardiogram, blood anticoagulation measurement, analysis and interpretation of arterial and venous blood gases, fluid and electrolyte balance and cerebral oxygen saturation. After mastering the basic concepts of each section, students work through case-study scenarios to apply theory to practice. Electronic simulators are used. A minimum grade of B is required to progress.

**Offered:** Every year, Fall**PR 520. Research Methods in Cardiovascular Perfusion.****2 Credits.**

This course explores ethical issues in medical research, provides an overview of grant proposal writing and includes development of a research project, data collection and analysis using statistical programs for computers. Students develop a presentation and employ various computer presentation techniques to present student project data. Students work individually on the project and require the approval of the instructor to pursue a particular topic. A minimum grade of B is required to progress.

**Prerequisites:** Take PR 503 PR 506 PR 509 PR 510 PR 512.**Offered:** Every year, Summer**PR 522. Research Methods in CV Perfusion II.****2 Credits.**

This course is a continuation of PR 520. It provides the perfusion student with an introduction to current areas of research being conducted in the open-heart field, scientific principles of experimental design and analysis and methods of reporting results to the scientific community. This course enables students to complete the collection/analysis of data that was begun in PR 520, prepare the final written report and present the results of the research project to the perfusion community. A minimum grade of B is required to progress.

**Prerequisites:** Take PR 520.**Offered:** Every year, Fall**PR 600. Clinical Practicum I.****5 Credits.**

This course provides experience in the areas of heart-lung bypass for adult, pediatric and infants, including long-term supportive extracorporeal circulation, adjunctive techniques and patient monitoring. Students focus on hypothermia, pulsatile devices, and monitor hemodynamics, blood gases, bubble detection, level sensing, temperature, electrophysiology, coagulation potential and fluid electrolytes. Special applications also are covered. Students must successfully complete a sufficient variety and number of perfusions to satisfy recommendations of the American Board of Cardiovascular Perfusion. Students meet as a group every six weeks, and individually present a patient case study at grand rounds. A minimum grade of B is required to pass.

**Prerequisites:** Take PR 503 PR 506 PR 509 PR 510 PR 512.**Offered:** Every year, Summer

**PR 602. Clinical Practicum II.****5 Credits.**

This course provides experience in the areas of heart-lung bypass for adult, pediatric and infants, including long-term supportive extracorporeal circulation, adjunctive techniques and patient monitoring. Students focus on hypothermia, pulsatile devices and monitor hemodynamics, blood gases, bubble detection, level sensing, temperature, electrophysiology, coagulation potential and fluid electrolytes. Special applications also are covered. Students must successfully complete a sufficient variety and number of perfusions to satisfy recommendations of the American Board of Cardiovascular Perfusion. Students meet as a group every six weeks, and individually present a patient case study at grand rounds. A minimum grade of B is required to progress.

**Prerequisites:** Take PR 600.**Offered:** Every year, Fall**PR 604. Clinical Practicum III.****5 Credits.**

This course provides experience in the areas of heart-lung bypass for adult, pediatric and infants, including long-term supportive extracorporeal circulation, adjunctive techniques and patient monitoring. Students focus on hypothermia, pulsatile perfusion devices and monitor hemodynamics, blood gases, bubble detection, level sensing, temperature, electrophysiology, coagulation potential and fluid electrolytes. Special applications also are covered. Students must successfully complete a sufficient variety and number of perfusions to satisfy recommendations of the American Board of Cardiovascular Perfusion. A final comprehensive exam covering all aspects of the program and clinical practice is taken at the end of this course. A successful performance on the examination is required to complete the program. A minimum grade of B is required to progress.

**Prerequisites:** Take PR 602.**Offered:** Every year, Spring**Physician Assistant (PY)****PY 501. Human Physiology.****4 Credits.**

This course takes a system approach to the physiologic and biochemical functions of the human body, including relevant anatomical correlations. Laboratory sessions emphasize clinical application to systemic function.

**Offered:** Every year, Summer**PY 501L. Physiology Lab.****0 Credits.**

Lab to accompany PY 501. (3 lab hrs.)

**Offered:** Every year, Summer**PY 502. Physical Diagnosis.****4 Credits.**

Students are introduced to the organization and techniques for performing the physical examination including the use of equipment. Lab sessions provide students with practical experience performing the complete physical examination on the adult patient. The course features specialty workshops in orthopedics, infant and child, as well as the male and female genitalia. Preclinical clerkships help students improve their clinical skills in history taking, physical exam performance, oral and written presentations.

**Offered:** Every year, Fall**PY 502L. Physical Diagnosis Lab.****0 Credits.**

Lab to accompany PY 502. (2 lab hrs.)

**Offered:** Every year, Fall**PY 503. Principles of Interviewing.****3 Credits.**

This course explores the various methods of approaching and interviewing patients focusing on the establishment of a relationship, effects of cultural backgrounds, gender and age on giving and receiving of information in order to obtain an accurate medical history.

**Offered:** Every year, Summer**PY 504. History, Roles and Responsibilities of the PA.****1 Credit.**

This course explores through lecture and discussion the factors affecting the development of the profession and role socialization with emphasis on standards of quality assurance, credentialing of continued competence, policies and regulations governing clinical responsibilities and dynamics of membership on a health care team.

**Offered:** Every year, Spring**PY 505. Clinical Pharmacology I.****2 Credits.**

This distance education course covers the classification, mechanism of action, toxicity and clinical use of therapeutics agents. Side effects, indications, dose response and management of therapeutics are emphasized.

**Offered:** Every year, Fall**PY 506. Principles of Internal Medicine.****6 Credits.**

This course takes an organ system approach to disease emphasizing the pathogenesis, clinical presentation, differential diagnosis, diagnostic and therapeutic approach to disease processes. Laboratory sessions focus on clinical problem solving through the use of real cases.

**Offered:** Every year, Fall**PY 506L. Clinical Correlation Lab.****0 Credits.**

Lab to accompany PY 506. (1 lab hr.)

**Offered:** Every year, Fall**PY 507. Principles of Electrocardiography.****1 Credit.**

This course offers a directed approach to understanding the principles of electrocardiography and its applications to clinical practice. Throughout this course, general principles of the etiologies of abnormal EKG patterns, the differential diagnosis and clinical management are discussed to correlate the EKG with clinical situations.

**Offered:** Every year, Summer**PY 507L. EKG Lab.****0 Credits.**

Lab to accompany PY 507. (1 lab hr.)

**Offered:** Every year, Summer**PY 508. Diagnostic Methods I.****2 Credits.**

Clinical laboratory medicine is examined with emphasis on indications for tests, normal values, interpretation of results and correlation with clinical conditions. Laboratory sessions provide students with practical experience performing basic laboratory tests.

**Offered:** Every year, Summer**PY 508L. Diagnostic Methods Lab.****0 Credits.**

Lab to accompany PY 508. (2 lab hrs.)

**Offered:** Every year, Summer**PY 509. Principles of Obstetrics and Gynecology.****3 Credits.**

Anatomy and physiology of the human reproductive system are examined, including the changes in pregnancy, prenatal care, medical and surgical complications of pregnancy, pre- and postpartum care. Common gynecologic conditions, methods and effectiveness of contraception, cancer detection methods and the diagnosis and treatment of sexually transmitted infections in the female are explored.

**Offered:** Every year, Spring**PY 510. Principles of Pediatrics.****3 Credits.**

This course examines the physical and psychological fundamentals of normal growth and development. Focus is on the major pediatric illnesses and conditions, their signs, symptoms and treatment. Immunization schedules, the various medications used in the pediatric population, their doses and indication are examined; the management of pediatric emergencies such as acute cardiac and respiratory arrest, anaphylaxis, seizures and trauma also are explored.

**Offered:** Every year, Spring

- PY 511. Principles of Surgery and Emergency Medicine. 4 Credits.**  
The fundamentals of surgical disease are explored with discussions on the etiology, pathophysiology, clinical manifestations and appropriate management of major and minor surgical conditions and care of the acutely injured and critically ill patient. Topics are discussed with emphasis on clinical presentation and pre- and post-operative management. The course introduces the principles of life support technique and the initial management of acute medical and traumatic conditions. Laboratory sessions are used to familiarize the student with aseptic technique and basic surgical procedures such as airway control, various catheter placements, surgical bleeding control and wound management.  
**Offered:** Every year, Spring
- PY 511L. Clinical Skill Lab. 0 Credits.**  
Lab to accompany PY 511. (2 lab hrs.)  
**Offered:** Every year, Spring
- PY 512. Psychosocial Issues in Health Care. 2 Credits.**  
This course explores how cultural belief systems and values in a multicultural society relate to the provision of appropriate health care/ counseling. Students become familiarized with the biological and psychological attributes contributing to sexual expression as well as societal values that shape perception and expression. Factors associated with communicating with and caring for individuals from different cultures, opposite genders or differing sexual preference are explored. Lab sessions help students gain experience and develop confidence in approaching patients through preclinical clerkships. Students improve their clinical skills in the areas of eliciting a history, performing a physical exam, presenting an oral report and medical documentation via the patient chart note.  
**Offered:** Every year, Spring
- PY 512L. Psychosocial Issues Lab. 0 Credits.**  
Lab to accompany PY 512. (2 lab hrs.)  
**Offered:** Every year, Spring
- PY 513. Behavioral Medicine. 3 Credits.**  
This one-semester course gives students an overview of some of the most important areas in behavioral psychiatry. The course includes an overview of basic psychiatric concepts and focuses on assessing patients who manifest psychological symptoms. Topics include diagnosis and treatment of anxiety disorders, mood disorders, common child and adolescent disorders, somatoform and factitious disorders, psychotic disorders, sleep disorders, adjustment and personality disorders, drug and alcohol abuse, and addresses forensic issues in behavioral health.  
**Offered:** Every year, Spring
- PY 514. Diagnostic Methods II. 1 Credit.**  
This course covers the basic principles of radiologic and imaging techniques, indication for various tests and recognition of abnormal findings.  
**Offered:** Every year, Fall
- PY 515. Clinical Pathology. 3 Credits.**  
Basic human pathology is examined from a systemic and cellular level, pathogenesis and various disease states. Topics include histology, inflammation and repair, endocrine, cardiovascular, pulmonary, musculoskeletal, GI and GU pathology.  
**Offered:** Every year, Summer
- PY 516. Clinical Pharmacology II. 2 Credits.**  
This continuation of Clinical Pharmacology I emphasizes commonly prescribed therapeutic agents.  
**Offered:** Every year, Spring
- PY 517. Human Anatomy. 4 Credits.**  
This lecture/laboratory experience is meant to provide an environment for learning gross morphology of the human body including structural relationships, anatomical variations and radiological correlations. Approach to the material is both regional and systemic. Content includes the basic concepts of embryology, the comparison of normal and abnormal structural relationships and demonstration of how these things relate to health and disease. To meet the instructional goals and objectives, students attend lectures, review online reusable learning modules and participate in cadaveric dissections.  
**Offered:** Every year, Summer
- PY 517L. Human Anatomy Lab. 0 Credits.**  
Lab to accompany PY 517. (6 lab hrs.)  
**Offered:** Every year, Summer
- PY 519. Human Anatomy. 3 Credits.**  
This lecture experience is meant to provide an environment for learning gross morphology of the human body including structural relationships, anatomical variations and clinical application. Approach to the material is both regional and systemic. Content includes the basic concepts of embryology, the comparison of normal and abnormal structural relationships and demonstration of how these things relate to health and disease. To meet the instructional goals and objectives, students attend lectures and review online reusable learning modules while making connections to concepts encountered in PY 519L.  
**Offered:** Every year, Summer
- PY 519L. Human Anatomy Lab. 1 Credit.**  
This lab experience is meant to provide an environment for learning gross morphology of the human body including structural relationships, anatomical variations and clinical application. Approach to the material is both regional and systemic. To meet the instructional goals and objectives, students complete full cadaveric dissections and a self-study osteology review.  
**Corequisites:** Take PY 519.  
**Offered:** Every year, Summer
- PY 526. Principles of Epidemiology. 3 Credits.**  
This graduate-level course in epidemiology directs itself toward application of epidemiological principles. The course involves analysis of prospective and retrospective studies, cross-sectional studies and experimental epidemiology. Both communicable and chronic disease case studies are used, as well as case studies of occupationally induced diseases.  
**Offered:** Every year, Summer
- PY 536. Biostatistics. 3 Credits.**  
This course covers the application of statistical techniques to the biological and health sciences. Emphasis is on mathematical models, collection and reduction of data, probabilistic models estimation and hypothesis testing, regression and correlation, experimental designs and non-parametric methods.  
**Offered:** Every year, Summer
- PY 546. Ethics in Health Care Delivery. 3 Credits.**  
This course provides an opportunity for identifying, analyzing and resolving ethical dilemmas that will be encountered in professional practice. Issues are examined using the basic principles of biomedical ethics that include respect for persons, truth telling, justice, beneficence and integrity.  
**Offered:** Every year, Summer



- PY 548. Ethics in Health Care Delivery I. 2 Credits.**  
This course provides an overview of the discipline of Medical Ethics presenting the study and application of relevant principles, insights and understandings of modern medical practice. The course includes a study of ethical theories, which lay the foundation for subsequent investigation into specific ethical problems found in medical science and technology. A framework of ethical decision making is introduced and practiced using realistic medical cases. The purpose of the course is to provide a framework that enables the student to reason clearly and effectively about the ethics involved in medical science and technology. This course better prepares students to identify ethical issues they may encounter during the clinical year and provides a method for ethical decision making when faced with these issues. The course assumes no prior knowledge of philosophical ethics or medical science.  
**Offered:** Every year, Summer
- PY 572. Medical Microbiology and Infectious Diseases. 4 Credits.**  
This detailed study of microorganisms and the diseases they cause in man includes consideration of infectious disease microorganisms including their biochemical, serological and virulence characteristics, and clinical manifestations. An organ system approach is used to examine the fundamentals of pathogenicity, host response, epidemiological aspects of infectious disease, as well as clinical manifestations, diagnosis and treatment of infections.  
**Offered:** Every year, Fall
- PY 599. Independent Study. 3 Credits.**  
**Offered:** As needed, All
- PY 608. Graduate Seminar. 3 Credits.**  
This seminar prepares students for the specific requirements of entering professional practice. Faculty active in the profession cover such issues as malpractice coverage, licensure regulation, risk management and legal issues, and aspects of the financing of health care. Lab sessions are designed as small group seminars. Through guided discussion in these small seminar settings, students explore the current literature and thinking on the competencies for the physician assistant profession.  
**Offered:** Every year, Summer
- PY 608L. Graduate Seminar Lab. 0 Credits.**  
Lab to accompany PY 608. (1.5 lab hrs.)  
**Offered:** Every year, Summer
- PY 611. Clinical Residency I. 3 Credits.**  
Upon successful completion of the didactic phase, the PA student undertakes an intensive course of study requiring the application of skills and concepts acquired during the earlier course work. Each student rotates through seven six-week clinical disciplines and two four-week electives at varying sites throughout Connecticut, Massachusetts and Rhode Island. The core rotations are: family medicine/primary care, internal medicine, general surgery, emergency medicine, obstetrics/gynecology, pediatrics and psychiatry. Supplemental electives include a wide variety of medical, surgical and pediatric subspecialties.  
**Offered:** Every year, Summer
- PY 612. Clinical Residency II. 3 Credits.**  
Upon successful completion of the didactic phase, the PA student undertakes an intensive course of study requiring the application of skills and concepts acquired during the earlier course work. Each student rotates through seven six-week clinical disciplines and two four-week electives at varying sites throughout Connecticut, Massachusetts and Rhode Island. The core rotations are: family medicine/primary care, internal medicine, general surgery, emergency medicine, obstetrics/gynecology, pediatrics and psychiatry. Supplemental electives include a wide variety of medical, surgical and pediatric subspecialties.  
**Offered:** Every year, Summer
- PY 613. Clinical Residency III. 3 Credits.**  
Upon successful completion of the didactic phase, the PA student undertakes an intensive course of study requiring the application of skills and concepts acquired during the earlier course work. Each student rotates through seven six-week clinical disciplines and two four-week electives at varying sites throughout Connecticut, Massachusetts and Rhode Island. The core rotations are: family medicine/primary care, internal medicine, general surgery, emergency medicine, obstetrics/gynecology, pediatrics and psychiatry. Supplemental electives include a wide variety of medical, surgical and pediatric subspecialties.  
**Offered:** Every year, Summer
- PY 614. Clinical Residency IV. 3 Credits.**  
Upon successful completion of the didactic phase, the PA student undertakes an intensive course of study requiring the application of skills and concepts acquired during the earlier course work. Each student rotates through seven six-week clinical disciplines and two four-week electives at varying sites throughout Connecticut, Massachusetts and Rhode Island. The core rotations are: family medicine/primary care, internal medicine, general surgery, emergency medicine, obstetrics/gynecology, pediatrics and psychiatry. Supplemental electives include a wide variety of medical, surgical and pediatric subspecialties.  
**Offered:** Every year, Fall
- PY 615. Clinical Residency V. 3 Credits.**  
Upon successful completion of the didactic phase, the PA student undertakes an intensive course of study requiring the application of skills and concepts acquired during the earlier course work. Each student rotates through seven six-week clinical disciplines and two four-week electives at varying sites throughout Connecticut, Massachusetts and Rhode Island. The core rotations are: family medicine/primary care, internal medicine, general surgery, emergency medicine, obstetrics/gynecology, pediatrics and psychiatry. Supplemental electives include a wide variety of medical, surgical and pediatric subspecialties.  
**Offered:** Every year, Fall
- PY 616. Clinical Residency VI. 3 Credits.**  
Upon successful completion of the didactic phase, the PA student undertakes an intensive course of study requiring the application of skills and concepts acquired during the earlier course work. Each student rotates through seven six-week clinical disciplines and two four-week electives at varying sites throughout Connecticut, Massachusetts and Rhode Island. The core rotations are: family medicine/primary care, internal medicine, general surgery, emergency medicine, obstetrics/gynecology, pediatrics and psychiatry. Supplemental electives include a wide variety of medical, surgical and pediatric subspecialties.  
**Offered:** Every year, Fall

**PY 617. Clinical Residency VII.****3 Credits.**

Upon successful completion of the didactic phase, the PA student undertakes an intensive course of study requiring the application of skills and concepts acquired during the earlier course work. Each student rotates through seven six-week clinical disciplines and two four-week electives at varying sites throughout Connecticut, Massachusetts and Rhode Island. The core rotations are: family medicine/primary care, internal medicine, general surgery, emergency medicine, obstetrics/gynecology, pediatrics and psychiatry. Supplemental electives include a wide variety of medical, surgical and pediatric subspecialties.

**Offered:** Every year, Spring**PY 618. Clinical Residency VIII.****3 Credits.**

Upon successful completion of the didactic phase, the PA student undertakes an intensive course of study requiring the application of skills and concepts acquired during the earlier course work. Each student rotates through seven six-week clinical disciplines and two four-week electives at varying sites throughout Connecticut, Massachusetts and Rhode Island. The core rotations are: family medicine/primary care, internal medicine, general surgery, emergency medicine, obstetrics/gynecology, pediatrics and psychiatry. Supplemental electives include a wide variety of medical, surgical and pediatric subspecialties.

**Offered:** Every year, Spring**PY 619. Clinical Residency IX.****3 Credits.**

Upon successful completion of the didactic phase, the PA student undertakes an intensive course of study requiring the application of skills and concepts acquired during the earlier course work. Each student rotates through seven six-week clinical disciplines and two four-week electives at varying sites throughout Connecticut, Massachusetts and Rhode Island. The core rotations are: family medicine/primary care, internal medicine, general surgery, emergency medicine, obstetrics/gynecology, pediatrics and psychiatry. Supplemental electives include a wide variety of medical, surgical and pediatric subspecialties.

**Offered:** Every year, Spring**PY 648. Ethics/Health Care Delivery II.****1 Credit.**

This 1-credit course occurs in the third summer after the student completes their clinical rotations. The course is a continuation of the PY 548 Ethics in Health Care I. The purpose of the course is to reinforce a framework of ethical decision-making which enables the student to reason clearly and effectively about the ethics involved in medical science and technology and reflect on ethical issues encountered during the clinical year. Student experiences encountered during their clinical year are used to exemplify the theoretical course material.

**Offered:** Every year, Summer**PY 650. Medical Writing Workshop/Journal Club.****1 Credit.**

The purpose of the medical writing course is to educate the PA student in the interpretation of medical literature and provide experiences in the various forms of medical writing and presentations. The course begins in summer semester of the second year with lectures, modules and on-campus activities, and then spans the clinical year using distance-education resources. Learning topics progress from a basic overview of writing mechanics and proper referencing to specific types of medical articles. Success in the medical writing course is determined by the quality of the researched written clinical papers and posters.

**Offered:** Every year, Summer**PY 676. Comprehensive Examination.****2 Credits.**

This comprehensive examination is a capstone of the physician assistant program. The purpose of the exam is twofold. First, to ascertain if the student has both the broad and specific knowledge expected of someone holding a master's degree. Second, to determine whether the student has been able to integrate knowledge obtained from individual courses into unified concepts that link the students' own specialization to other fields of study. The student is given an oral exam, a written examination and a clinical skills examination in the form of an Objective Score of Clinical Evaluation (OSCE).

**Offered:** Every year, Summer**PY 699. Independent Study.****3 Credits.****Offered:** As needed, All

## Radiologist Assistant (RA)

**RA 505. Clinical Pharmacology I.****3 Credits.**

This education course covers the classification, mechanism of action, toxicity and clinical use of therapeutics agents. Side effects, indications, dose response and management of therapeutics are emphasized.

**Offered:** Every year, Summer**RA 517. Human Anatomy.****3 Credits.**

This course focuses on dissection of the human body with particular attention to the embryologic origin and relationship of organ systems. Emphasis is placed on internal organs with clinical correlation to anatomic condition.

**Offered:** Every year, Summer**RA 517L. Human Anatomy Lab.****1 Credit.**

Lab to accompany RA 517. (6 lab hrs.)

**Offered:** Every year, Summer**RA 518. Imaging Pathophysiology.****3 Credits.**

The content focuses on the characteristics and manifestations of disease caused by alterations or injury to the structure or function of the body. Concepts basic to pathophysiology as well as common disease conditions are studied and serve as prototypes in understanding alterations that occur in the major body systems. Emphasis is placed on the characteristic manifestations and image correlation with these pathologies observed through diagnostic imaging. For radiologist assistant majors only.

**Offered:** Every year, Fall**RA 520. Radiation Safety and Health Physics.****2 Credits.**

This course provides an understanding of the protection of individuals from the harmful effects of ionizing radiation. Content includes an overview of the regulatory bodies and patient radiation safety regulations affecting the diagnostic imaging environment. The interaction of ionizing radiation with matter, units of exposure and dose, radiation detection and measurement devices are considered. Practical techniques and QA/QC procedures for reducing patient and operator risk of exposure to ionizing radiation are discussed.

**Offered:** Every year, Summer

**RA 530. Image Critique and Pathologic Pattern Recognition I. 3 Credits.**

Basic imaging interpretation skills are presented to differentiate normal and abnormal structures in the skeletal, respiratory and cardiovascular systems, head and soft tissue neck across the lifespan. Students develop an understanding of the correlation of anatomy, pathology and physiology as it relates to radiologic imaging and interpretation. Protocols for drafting memoranda of initial observations based on image assessment are included. Guest lectures are provided. This course also includes imaging post processing. The content is designed to establish knowledge in the fundamentals of digital image post processing that support guided skill development using clinical based imaging workstations.

**Offered:** Every year, Fall

**RA 531. Image Critique and Pathologic Pattern Recognition II. 3 Credits.**

Basic imaging interpretation skills are presented to differentiate normal and abnormal structures in breast, gastrointestinal and genitourinary systems across the lifespan. Students develop an understanding of the correlation of anatomy, pathology and physiology as it relates to radiologic imaging and interpretation. Protocols for drafting memoranda of initial observations based on image assessment are included. Guest lectures are provided. This course also includes image post processing. The content is designed to establish a knowledge of the fundamentals of digital image post processing that support guided skill development using clinical based image workstations.

**Offered:** Every year, Spring

**RA 532. Interventional Procedures I. 3 Credits.**

This course focuses on invasive procedures expected to be performed by the radiologist assistant. Students develop an understanding of the correlation of anatomy, pathology and physiology as it relates to radiologic imaging and interpretation with an assessment of need for interventional procedures across the lifespan. Procedures related to skeletal, respiratory and cardiovascular and head and neck systems are discussed, including but not limited to arthrograms, lumbar punctures, PICC, central venous lines, venogram, fistulograms, organ biopsies and thoracentesis. Quality improvement methods are emphasized.

**Offered:** Every year, Fall

**RA 535. Interventional Procedures II. 3 Credits.**

This course focuses on invasive procedures expected to be performed by the radiologist assistant. Students develop an understanding of the correlation of anatomy, pathology and physiology as it relates to radiologic imaging and interpretation with an assessment of need for interventional procedures. Procedures related to the breast, gastrointestinal and genitourinary systems across the lifespan are discussed, including but not limited to breast aspiration, nephrostogram, loopogram, gastric and T-tube check, organ biopsies and paracentesis. Quality improvement methods are emphasized.

**Offered:** Every year, Spring

**RA 542. Patient Assessment, Management and Education. 3 Credits.**

The course facilitates the student's understanding of the theoretical basis of patient assessment, management and education across the lifespan. The content reinforces the critical thinking model to aid in the development of interviewing skills and assessment techniques. Assessment of body systems, not limited to genitourinary, gastrointestinal, cardiovascular, breast and central nervous system are introduced. Techniques to develop hypotheses regarding nature and origin of patient's problems are explored.

**Offered:** Every year, Fall

**RA 545. Research Methods and Design. 3 Credits.**

Students explore ethical issues in medical research, develop a research project, collect data and perform analysis using statistical programs for computers. A presentation is developed and various computer presentation techniques are employed to present student project data. Students work individually on the project and require the approval of the instructor to pursue a particular topic.

**Offered:** Every year, Fall

**RA 550. Clinical Seminar I. 1 Credit.**

This distance education course requires students to present a minimum of two case studies during the academic semester. Based on the case study requirements of the radiologist assistant examination criteria, each student is responsible for patient history, clinical correlation, explanation of imaging procedures, evaluation of imaging studies and identification of pertinent anatomy. Students may choose a minimum of one modality for discussion per case study. Students are required to participate in discussions regarding each weekly case study.

**Offered:** Every year, Spring

**RA 551. Clinical Seminar II. 1 Credit.**

This distance education course requires students to present a minimum of two case studies during the academic semester. Based on the case study requirement of the radiologist assistant examination, students are responsible for patient history, clinical correlation, explanation of imaging procedures, evaluation of imaging studies and identification of pertinent anatomy.

**Offered:** Every year, Summer

**RA 552. Clinical Seminar III. 3 Credits.**

This distance education course requires students to present a minimum of two case studies during the academic semester. Based on the case study requirement of the radiologist assistant examination, students are responsible for patient history, clinical correlation, explanation of imaging procedures, evaluation of imaging studies and identification of pertinent anatomy.

**Offered:** Every year, Fall

**RA 570. Radiologist Assistant Clinical I. 3 Credits.**

This course provides students with a clinical experience over a 15-week period. Students are required to attend clinical three consecutive days per week. The areas of experience include general radiography, fluoroscopic procedures and interventional procedures. The experience also includes advanced imaging modalities such as magnetic resonance imaging, computer tomography, mammography, positron emission tomography and ultrasound. Application of skills related to patient care and management, radiographic pattern recognition and procedural variances are employed. Students must complete American Registry of Radiologic Technologists competency requirements.

**Offered:** Every year, Spring

**RA 571. Radiologist Assistant Clinical II. 5 Credits.**

This course provides students with a clinical experience over a 15-week period. Students are required to attend clinical four consecutive days per week. The areas of experience include general radiography, fluoroscopic procedures and interventional procedures. The experience also includes advanced imaging modalities such as magnetic resonance imaging, computer tomography, mammography, positron emission tomography and ultrasound. Application of skills related to patient care and management, radiographic pattern recognition and procedural variances are employed. Students must complete American Registry of Radiologic Technologists competency requirements.

**Offered:** Every year, Summer

**RA 572. Radiologist Assistant Clinical III. 5 Credits.**

This course provides students with a clinical experience over a 15-week period. Students are required to attend clinical five consecutive days per week. The areas of experience include general radiography, fluoroscopic procedures and interventional procedures. In addition, experience includes advanced imaging modalities such as magnetic resonance imaging, computer tomography, mammography, positron emission tomography and ultrasound. Application of skills related to patient care and management, radiographic pattern recognition and procedural variances are employed. Students must complete American Registry of Radiologic Technologists competency requirements.

**Offered:** Every year, Fall

**RA 573. Radiologist Assistant Clinical IV. 5 Credits.**

This course provides students with a clinical experience over a 15-week period. Students are required to attend clinical five consecutive days per week. The areas of experience include general radiography, fluoroscopic procedures and interventional procedures. In addition, experience includes advanced imaging modalities such as magnetic resonance imaging, computer tomography, mammography, positron emission tomography and ultrasound. Application of skills related to patient care and management, radiographic pattern recognition and procedural variances are employed. Students must complete American Registry of Radiologic Technologists competency requirements.

**Offered:** Every year, Spring

**RA 590. Thesis I. 1 Credit.**

The focus of this course is to further develop the paper written in RA 545. Students work on improving the abstract; introduction and literature review; developing the results, discussion, conclusion and recommendation sections of the thesis. At the conclusion of the course the student should have rough draft of a five-chapter thesis.

**Offered:** Every year, Spring

**RA 591. Thesis II. 2 Credits.**

This course is a continuation of RA 590 Thesis I. Each student produces a final five-chapter thesis and is required to present the completed thesis.

**Offered:** Every year, Summer

**RA 599. Independent Study. 1-6 Credits.**

**Offered:** As needed

**RA 699. Independent Study. 1-6 Credits.**

**Offered:** As needed

## Social Work (SW)

**SW 500. Generalist Field Education Practicum I. 3 Credits.**

This is the first of two field placements. The generalist field placement is offered in the generalist year for 16 hours a week for a minimum of 400 hours. In addition to the hours required in the agency placement, there is a requirement to attend a Field Seminar on campus throughout the months of the placement.

**Corequisites:** Take SW 501.

**Offered:** Every year, Fall

**SW 501. Social Work Practice I: Social Work Practice with Individuals and Families. 3 Credits.**

This is the first semester of the generalist practice sequence. Social Work Practice I provides an introduction to social work practice. The courses present the knowledge and skills necessary for competent generalist social work practice with individuals and families. Skills taught in this course are interviewing, problem identification, problem exploration, formulating the presenting complaint, data gathering, differential assessment, planning, beginning intervention, termination, and evaluation.

**Corequisites:** Take SW 500. Take SW 511 or SW 506.

**Offered:** Every year, Fall

**SW 502. Generalist Field Education Practicum II. 3 Credits.**

This is the second of two field placements. The generalist field placement is offered in the generalist year for 16 hours a week for a minimum of 400 hours. In addition to the hours required in the agency placement, there is a requirement to attend a Field Seminar on campus throughout the months of the placement.

**Corequisites:** Take SW 503.

**Offered:** Every year, Spring

**SW 503. Social Work Practice II: Social Work Practice with Groups, Organizations and Communities. 3 Credits.**

This is the second semester of the generalist practice sequence. Social Work Practice II provides an introduction to social work practice. The courses present the knowledge and skills necessary for competent social work practice with groups, organizations and communities. There is special attention given to vulnerable and disenfranchised populations.

**Prerequisites:** Take SW 501.

**Corequisites:** Take SW 502.

**Offered:** Every year, Spring

**SW 504. Social Welfare and Social Policy. 3 Credits.**

This course provides students with a foundation understanding and appraisal of social welfare policies and programs in the United States, and the historical and contemporary forces that have shaped their development. It covers the formation of the social work profession and its role in the creation and implementation of social policy and its tradition of advocacy, social action, and reform. Students take steps to engage in policy practice to advance social and economic justice.

**Offered:** Every year, Fall

**SW 505. Social Work Research. 3 Credits.**

The purpose of this course is to provide the generalist MSW student with a solid foundation in social work research, with an emphasis on evidence-based practice. As consumers and producers of research, social workers need to understand the core concepts of scientifically sound and rigorous research. Students become prepared to critically evaluate the research and learn to synthesize empirical research into a systematic review. The impact of bias in research is identified.

**Offered:** Every year, Fall

**SW 507. Issues of Diversity and Oppression. 3 Credits.**

This course examines the dynamics of racism and other forms of oppression in society and within us, and how those dynamics are intertwined with policy and practice. The course places oppression in the economic, political and social context of the U.S. Students analyze racism, sexism and ethnocentrism as they operate at the individual, community and institutional levels. The course aims to increase self-awareness and cultural humility for social work practice.

**Offered:** Every year, Spring



**SW 508. Psychopathology.****3 Credits.**

This course provides students with extensive knowledge of the major forms of emotional illness and their treatment. Students develop competence in diagnosis by mastering the currently accepted diagnostic code (DSM-V). They develop competence in treatment planning through awareness and understanding of the most modern and accepted treatments for each major category of mental illness.

**Prerequisites:** Take SW 500 SW 501.**Offered:** Every year, Spring**SW 511. Human Behavior in the Social Environment I: Theories for Practice for Individuals and Families.****3 Credits.**

Using a person-in-environment framework, this course provides an understanding of the relationship between the major theories of individual and family functioning among biological, social, psychological and spiritual dimensions as they affect and are affected by human behavior and family life. Students examine the role that culture and intersectionality play in human development, within the context of biological and social systems, psychodynamic, ecological, social constructionist, humanistic, cognitive and behavioral theories.

**Offered:** Every year, Fall**SW 512. Human Behavior in the Social Environment II: Theories for Groups, Organizations and Communities.****3 Credits.**

Using an ecosystems framework, this course provides an understanding of the major theories that explain the structures, functions, and dynamics of groups, organizations and communities. Students master core ideas of theories that provide the conceptual base for engaging in interventions that occur in the macro social environment. The course focuses on utilizing theories that promote empowerment of key stakeholders within groups, organizations and communities and that address social and economic injustice.

**Offered:** Every year, Spring**SW 600. Specialized Practice Field Education Practicum in Health/Behavioral Health I.****4 Credits.**

This specialized practice field placement is the first of two field placements and offers a social work experience focused on health/behavioral health in a variety of settings. Students complete 24 hours a week for a minimum of 600 hours. In addition to the hours required in the agency placement, there is a requirement to attend a monthly Field Seminar.

**Prerequisites:** All generalist curriculum courses.**Corequisites:** Take SW 601.**Offered:** Every year, Fall**SW 601. Social Work Practice III: Specialized Clinical Social Work Practice.****3 Credits.**

This course focuses on clinical perspectives associated with social work in various fields of practice, particularly behavioral health consultation in the health care system. Skills to be acquired include how to make comprehensive psychosocial assessments and treatment plans for clients according to particular treatment perspectives. Multicultural applications for practice are incorporated. Attention is given to developing students' ability to apply ethical standards to clinical practice.

**Prerequisites:** All generalist curriculum courses.**Corequisites:** Take SW 600.**Offered:** Every year, Fall**SW 602. Specialized Practice Field Education Practicum in Health/Behavioral Health II.****4 Credits.**

This specialized practice field placement is the second of two field placements and offers a social work experience focused on health/behavioral health in a variety of settings. Students complete 24 hours a week for a minimum of 600 hours. In addition to the hours required in the agency placement, there is a requirement to attend a monthly Field Seminar.

**Prerequisites:** All generalist curriculum courses.**Corequisites:** Take SW 603.**Offered:** Every year, Spring**SW 603. Social Work Practice IV: Specialized Organizational Social Work Practice.****3 Credits.**

This course is designed to expand students' knowledge and understanding of human service organizations and to provide approaches for designing and managing programs. Students are exposed to various organizational and management theories and practices. In addition, emphasis is placed on organizational practice within the field of behavioral health in primary care settings.

**Prerequisites:** All generalist curriculum courses and SW 601.**Corequisites:** Take SW 602.**Offered:** Every year, Spring**SW 604. Evaluation Research Work Programs and Practice.****2 Credits.**

This course focuses on the necessity of program evaluation for agency accountability and for improving services for clients. The course provides an overview of the methods of program evaluation and builds upon learned research knowledge for elaborating on the conceptual, methodological and administrative aspects of evaluation research. Students gain knowledge on how to utilize evaluation studies to inform their own practice at the micro and mezzo levels.

**Prerequisites:** All generalist curriculum courses.**Offered:** Every year, Fall**SW 605. Integrative Seminar/Capstone Project.****2 Credits.**

This course requires students to integrate core areas of generalist and specialized practice knowledge to a current issue relevant for social work practice. Students research human behavior theory, innovative evidence-based practice, policy and advocacy, as well as the latest data on health/behavioral health promotion to disseminate strategies for ameliorating the negative impact of a social problem on a specific marginalized population.

**Prerequisites:** All generalist curriculum courses.**Corequisites:** Take SW 602 SW 603.**Offered:** Every year, Spring**SW 610. Social Work Issues for Services for the Aging Population: Aging in the Social Environment.****3 Credits.**

This specialized MSW course provides students with an opportunity to gain a better understanding of aging in the United States. The course uses multidisciplinary perspectives and examines aging as a process in the sociological, physiological, psychological and societal contexts. A major theme of the course is preparing students to meet the increasing demand of gerontological social work skills and knowledge as they operate at the individual, family, community and institutional levels.

**Prerequisites:** All generalist curriculum courses.**Offered:** Every other year, Spring

**SW 611. Social Work in Health-Related Settings. 3 Credits.**

This specialized practice MSW course focuses on the roles and functions of social workers serving clients in a rapidly changing health and behavioral health care industry. A strengths-based, family-centered and culturally sensitive approach to practice in a variety of health and behavioral health care settings is presented.

**Prerequisites:** All generalist curriculum courses.

**Corequisites:** Take SW 602.

**Offered:** Every other year, Spring

**SW 612. Social Work Practice in Child Welfare and Behavioral Health Settings. 3 Credits.**

This specialized practice social work course focuses on the characteristics, strengths and service needs of families and children in the child welfare, behavioral health and juvenile justice systems. It examines issues and builds practice skills related to those facing separation, reunification, effects of traumatic experiences, and mental health concerns.

**Prerequisites:** All generalist curriculum courses.

**Corequisites:** Take SW 602.

**Offered:** Every other year, Spring

**SW 613. Social Work Practice in Schools. 3 Credits.**

This specialized practice social work course presents knowledge and skills for engaging in social work practice from preschool through high school in educational settings across the continuum from direct practice, to school and district level programming and policy, to partnering with community stakeholders to advance programming and policy.

**Prerequisites:** All generalist curriculum courses.

**Corequisites:** Take SW 602 SW 603.

**Offered:** Every year, Spring

**SW 614. Social Work Issues in Health and Illness. 3 Credits.**

This course discusses the importance of cultural and socioeconomic factors in the creation of major health disparities in the United States. Physiological, psychological, social and environmental factors are considered in relationship to cultural and socioeconomic factors in explaining both etiology and consequences of disease. The framework is applied to common diseases in the life course.

**Prerequisites:** All generalist curriculum courses.

**Offered:** Every other year, Spring

**SW 620. International Social Welfare. 3 Credits.**

This social work elective course introduces students to international social work in the United States and abroad through an understanding of the major theories of individual and family functioning that encompasses biophysical, cognitive, emotional, social and spiritual dimensions. Students master the central concepts of theories that provide the conceptual base for many tools of intervention utilized in international social work as well as with refugee, immigrant and migrant individuals and families at the local level.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Fall and Spring

**SW 621. Health Policy. 3 Credits.**

This is an elective course on social welfare policy for specialized MSW students. This course is designed to prepare students to assess and understand the impact of American medical and health service programs and policies on human well-being. The concepts of social policy analysis are used in the evaluation and analysis of current programs and proposals for change.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Fall and Spring

**SW 622. Multicultural Practice in Communities and Organizations. 3 Credits.**

This specialized elective course provides students with an understanding of multicultural practice in organizational and community settings. Students examine concepts and techniques of multicultural practice; consider and evaluate relevant strategies and tactics that promote multiculturalism, including community capacity building, empowerment processes, intercultural communication, diversity training and cross-cultural supervision, and apply them to both community organizing and community-based agency practice settings.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Fall and Spring

**SW 623. Child and Family Social Services Policy. 3 Credits.**

This specialized practice MSW course provides a perspective on public and private sector social policies and service programs for children and families. The course includes topics related to policy objectives; history and values underpinning services; administration, economics, and funding of services; politics, interest group activities, and evaluation of policy and programs. The course builds on the evaluative concepts of social policy analysis included in the generalist policy course.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Fall and Spring

**SW 630. Clinical Social Work with Military Service Members and Families. 3 Credits.**

This specialized clinical elective provides conceptual theories of best practice approaches with, and research findings on working with service members and their families, with a primary focus on service members who have served in combat. Topics covered include strengths-based assessment and core evidence-based treatment interventions, and prevention strategies for working with service members and their families. The impact of working with traumatized individuals and families on social workers is reviewed with recommendations for self-care.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Spring and Summer

**SW 631. Clinical Social Work with Aging and Families. 3 Credits.**

This specialized clinical elective covers practice with older adults and their families. The goals of this course are for students to: understand the aging process from a holistic perspective, including biophysical, psychological, social/economical and spiritual dimensions; develop knowledge and skills to conduct a competent psychosocial assessment and implement effective interventions with older adults and their caregivers; and be capable case managers in specific practice settings, such as adult protective services, retirement communities, hospices, and hospitals.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, All

**SW 632. Art Therapy for Clinical Social Work Practice. 3 Credits.**

This specialized clinical elective course explores the principles of art therapy and considers the use of art in a therapeutic setting. Ethical guidelines are presented on the appropriate therapeutic use of art in a social work setting. The spectrum of art therapy and social work theory as related to the developmental lifespan is reviewed with emphasis on trauma-informed, attachment, strengths-based, humanistic, psychodynamic, CBT, DBT, mindfulness, multi-sensory and neuroscience approaches.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Fall

**SW 633. Clinical Social Work Practice and Stress Management Techniques. 3 Credits.**

The psychological, physiological and sociocultural aspects of stress are taught in this specialized clinical practice course. Stress management techniques are explored didactically and experientially. The purpose of this course is to teach students to understand the cognitive, affective and neurobiological impact of stress. Specific interventions to address traumatic stress also are discussed.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Fall

**SW 634. Clinical Social Work with Substance Abuse and Addictive Behaviors Abuse and Addictive Behaviors. 3 Credits.**

This course teaches the specialized practice social work student the theories and concepts of addiction. Students learn about the current research and approaches to counseling the chemically dependent client and/or family member, as well as the role of relevant systems, and how the addictive behavior affects these systems. The course emphasizes the application of social work values and ethics in the delivery of addiction services.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Fall

**SW 635. Clinical Social Work Evidence-Based Treatment With Children and Adolescents. 3 Credits.**

This specialized elective course provides students with a framework for understanding evidence-based mental health treatment with children and adolescents. Students become familiar with the most commonly used EBTs in the field and gain an understanding of the obstacles inherent in moving clinical practice from research to real-world settings. Models presented cover a range of diagnoses with an emphasis on children who have experienced emotional trauma. Individual, family and group treatment are addressed.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Fall

**SW 636. Clinical Social Work in Relation To Death, Dying, Bereavement and Life-Threatening Illness. 3 Credits.**

This specialized elective course provides a framework of knowledge, skills and values for culturally competent and responsive social work practice in helping clients who confront the issues of death and dying and life-threatening illnesses. A comparative, critically reflective approach to content is employed. Students explore experiences of clients dealing with these issues in relation to diversity of ethnicity or culture, age, gender, sexual orientation and social class.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Fall

**SW 637. Clinical Social Work with Couples. 3 Credits.**

This specialized clinical practice elective focuses on assessment and intervention in intimate relationships within clinical social work practice. The process and outcomes of working with intimate dyadic adult relationships is viewed from psychosocial, communication, cognitive, systems, object relations and attachment frameworks. Emphasis is on working with couples with a history of trauma.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Fall

**SW 638. Clinical Social Work Treatment of Adults with Chronic Mental Illness. 3 Credits.**

This specialized clinical practice elective focuses on social work treatment and care of adults with serious mental illnesses using empirical knowledge of recovery-oriented and evidence-based practices (EBPs) and evidence-based interventions (EBI). This course teaches practice models and methods of intervention for effective social work practice in community mental health services, including the promotion of mental health, the prevention of mental illnesses and the delivery of psychosocial treatments and rehabilitation services across diverse populations.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Spring

**SW 639. Inter-Personal Therapy (IPT) for Clinical Social Work Practice. 3 Credits.**

This specialized clinical practice course focuses on interpersonal psychotherapy, an empirically supported intervention for depression in adolescents and adults. Adaptations for other mental health disorders are discussed.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Spring

**SW 640. Clinical Social Work Practice with Adult Trauma. 3 Credits.**

This specialized clinical elective focuses on the conceptual theories of trauma from cognitive/behavioral, psychodynamic and attachment theory perspectives. Emphasis is on the role of gender, race, ethnicity and culture in individuals' responses to trauma. Students apply diagnoses, assessment, psycho-education, stress management, affect regulation and emotional processing as core treatment components. The course includes application to selected groups, including adult survivors of complex PTSD such as sexual abuse, combat trauma and survivors of acute incident trauma.

**Prerequisites:** All generalist curriculum courses.

**Offered:** As needed, Spring

**SW 699. Special Topics in Social Work. 3 Credits.**

This course is offered to present a topic that is not part of the current course listings. It meets the curriculum standards of the MSW program for elective credit only.

**Offered:** As needed