

BMSC - BIOMEDICAL SCIENCE (BMSC)

BMSC 700 - Biomedical Science Interdisciplinary Laboratory I (1 Credit)

Survey for new biomedical science graduate students of major problem areas and research methods in biomedical science with introduction to faculty, services, facilities, and major equipment of the basic science departments of the School of Medicine.

BMSC 701 - Biomedical Science Interdisciplinary Laboratory II (3 Credits)

Intensive tutorial for advanced biomedical science graduate students in laboratory techniques and/or methodology outside of department of specialization.

Prerequisites: BMSC 700.

BMSC 702 - Medical Cell Biology I (4 Credits)

The structure and assembly of eucaryotic cells, mechanisms of gene expression, and the cell biology of the immune system. Methods in cell biology are also discussed.

Prerequisites: basic biochemistry.

BMSC 705 - Medical Cell Biology II (4 Credits)

A continuation of BMSC 702, this course will cover cell-cell communication, cell motility, extracellular matrices, stem cells, cellular embryology, and the interactions of viruses with cells. Relevant methods will also be presented.

Prerequisites: BMSC 702.

BMSC 706 - Ethics in Biomedical Research (2 Credits)

Discussion of major ethical issues related to biomedical research. Two hours of lecture and small-group discussion per week.

BMSC 707 - Biochemistry for the Biomedical Sciences (3 Credits)

This course will cover the structure and function of proteins, lipids and carbohydrates. Special emphasis will be on the mechanisms of enzyme catalysis and the influence of the cellular environment on catalysis. The role of specific enzymes such as kinases in signal transduction and metabolic control will be emphasized.

BMSC 708 - Human Cell and Molecular Biology for Biomedical Sciences (3 Credits)

Examination of the organization and function of the cell with emphasis on the biophysical and quantitative aspects of cellular function. Emphasis will be on the regulation of cell division, protein transcription and translation within the cell, cellular energetics, and intracellular networks.

BMSC 710 - Medical Molecular Biology (4 Credits)

Theory and practice of molecular biology as applied to medical research. Nucleic acid structure and function, methodology, genome organization and DNA dynamics.

Prerequisites: BMSC 754, BMSC 755.

BMSC 720 - Signal Transduction (4 Credits)

Transmembrane signaling processes and regulatory mechanisms involved in neurotransmission and drug action. Emphasis on membrane receptors linked to ion channels, guanine nucleotide binding proteins, tyrosine kinase activity and intracellular receptors.

Prerequisites: BMSC 755.

BMSC 730 - Cardiovascular Science (4 Credits)

Anatomy, pathology, pharmacology and physiology of the cardiovascular system taught from a research-oriented perspective.

BMSC 740 - Human Anatomy for Health Sciences (6 Credits)

Instruction in normal human anatomy and embryology, as well as pathological variations during disease states, to include advanced anatomical imaging techniques such as radiography and ultrasonography.

BMSC 741 - Pathophysiology for Health Sciences (6 Credits)

Pathophysiologic mechanisms that underlie common diseases related to different organ systems.

BMSC 742 - Summative Experience for Physician Assistants (1 Credit)

Assessing the Physician Assistant student's readiness for clinical practice. The course will consist of a series of summative evaluations and board preparation.

BMSC 743 - Clinical Immersion for PAs (2 Credits)

Introduction to the clinical setting to include HIPAA training, shadowing clinicians, and basic life support training.

BMSC 744 - Interprofessional Seminar for Health Professionals (1 Credit)

Formal and informal codes of interprofessional conduct of the health science disciplines. Group discussion of implications for interprofessional research, clinical practice, and administration.

BMSC 745 - Medical Interviewing (2 Credits)

Instruction in medical interviewing, medical documentation, patient assessment, and patient management.

BMSC 746 - Physical Diagnosis (6 Credits)

Instruction in developing the techniques necessary to begin the evaluation of patients by ascertaining symptoms and evaluating physical signs of disease.

BMSC 747 - Diagnostic Testing (2 Credits)

Analysis, utilization and interpretation of diagnostic testing modalities in medicine.

BMSC 748 - Surgery and Emergency Medicine (2 Credits)

Specialized medical topics in emergency and surgical medicine.

BMSC 749 - Clinical Medicine-Across the Lifespan (2 Credits)

Instruction in clinical skills and knowledge required in primary care practices, including patients of all ages.

BMSC 750 - Population Health and Health Policy (3 Credits)

Instruction in patient-centered health care delivery systems to include patient safety, patient education, and preventive medicine with a focus on population health.

BMSC 751 - Behavioral Health (2 Credits)

Instruction in clinical skills and knowledge to understand the presentation and mechanisms of mental health problems, emphasizing a psychopathology approach to the patient.

BMSC 752 - Medical Law and Ethics (2 Credits)

Ethical issues and legal implications in patient-centered health care delivery systems.

BMSC 753 - Physician Assistant Professional Practice (1 Credit)

Instruction related to PA professional issues.

BMSC 754 - Biomedical Biochemistry I (4 Credits)

First of a two-semester sequence covering the major areas of biochemistry in a biomedical context. Chemistry of amino acids and proteins, enzymology, metabolism of carbohydrates and lipids. Emphasis is on biomedical research applications. Four lecture hours per week.

BMSC 755 - Medical Genetics and Laboratory Diagnostics (2 Credits)

Fundamental genetics, the role of human genetic factors in clinical medicine, and interpretation of laboratory data.

BMSC 756 - Advancing Medical Practice through Research (3 Credits)

Instruction in critical thinking skills and research methods to prepare students to search, interpret and evaluate the medical literature and perform clinical research.

BMSC 758 - Internal Medicine (4 Credits)

Supervised clinical practicum for physician assistant students in Internal Medicine.

BMSC 759 - Women's Health (4 Credits)

Supervised clinical practicum for physician assistant students in OB/GYN.

BMSC 760 - Pediatrics (4 Credits)

Supervised clinical practicum for physician assistant students in Pediatrics.

BMSC 761 - Behavioral Medicine (4 Credits)

Supervised clinical practicum for physician assistant students in Behavioral Medicine.

BMSC 762 - General Surgery (4 Credits)

Supervised clinical practicum for physician assistant students in General Surgery.

BMSC 763 - Emergency Medicine (4 Credits)

Supervised clinical practicum for physician assistant students in Emergency Medicine.

BMSC 764 - Orthopedics (4 Credits)

Supervised clinical practicum for physician assistant students in Orthopedics.

BMSC 765 - Practicum Elective (4 Credits)

Supervised clinical practicum for physician assistant students in area of student's choice with approval of the Director of Clinical Education. Elective can be in a specialty or a core area.

BMSC 766 - PA Clinical Medicine and Therapeutics I (7 Credits)

Examines diseases related to different organ systems including review of pathophysiological basis of disease, resulting clinical signs/symptoms and overview of treatment strategies.

Prerequisites: BMSC 740 and PHPH 701.

BMSC 767 - PA Clinical Medicine and Therapeutics II (6 Credits)

Examines diseases related to different organ systems including review of pathophysiological basis of disease, resulting clinical signs/symptoms and an overview of treatment strategies.

Prerequisites: BMSC 766.

BMSC 768 - PA Clinical Medicine and Therapeutics III (6 Credits)

Examines diseases related to different organ systems including a review of pathophysiological basis of disease, resulting clinical signs/symptoms and an overview of treatment strategies.

Prerequisites: BMSC 767.

BMSC 769 - PA Clinical Medicine and Therapeutics IV (7 Credits)

Examines disease related to different organ systems including review of pathophysiological basis of disease, resulting clinical signs/symptoms and overview of treatment strategies.

Prerequisites: BMSC 766, BMSC 767, BMSC 768.

BMSC 770 - Clinical Skills Lab (3 Credits)

Performing clinical procedures and using technology such as ultrasonography in clinical practice.

BMSC 780 - Biomedical Research (1-2 Credits)

Research project conducted with mentor focused on advancing medical practice.

BMSC 781 - Family Medicine PA Program Practicum (4 Credits)

First of two supervised clinical practicums for physician assistant students in Family and Preventive Medicine.

Prerequisites: Successful completion of the didactic PA program coursework during the first year.

BMSC 782 - Family Medicine PA Program Practicum 2 (4 Credits)

2nd of two four-week supervised clinical rotations for physician assistant students in Family and Preventive Medicine.

Prerequisites: BMSC 781.

BMSC 783 - Physician Assistant Capstone Portfolio (1 Credit)

Portfolio project conducted with faculty mentor focused on community service, continuing medical education, evidence-based medicine, research, and advancing medical practice.

BMSC 799 - Thesis Preparation (1-9 Credits)

BMSC 801 - Seminar in Biomedical Science (2 Credits)

Professional development and scientific update by attending Biomedical Science Seminar Series and meeting with speakers in section one for one credit. Section two for two credits also includes student presentations of literature review topics and current research. May be repeated for credit.