MEDICAL SCIENCES

The Masters of Science in Medical Sciences (MSMS) program intentionally mirrors the first-year curriculum of our affiliate institution Ponce Health Sciences University (PHSU) School of Medicine in St. Louis, Missouri. This rigorous eleven-month program is an opportunity for students pursuing graduate healthcare education to bolster their fund of medical science knowledge, gain confidence to succeed in the challenging graduate healthcare academic venue, and a chance to prove their academic aptitude to admissions committees when applying to future graduate healthcare programs. Two-thirds of MSMS graduates matriculate into allopathic or osteopathic medical school, dental, physician assistant, chiropractic, optometry, physical therapy, or podiatry programs. One-third of MSMS graduates utilize this master's degree to obtain various professional medical science occupations, including: biomedical research, healthcare administration, healthcare education, doctoral research, amongst others. Partnered with PHSU, we developed the innovative "Pathways Program" to foster relationships for professional job opportunities at respected institutions, such as: Medtronic, Boston Scientific, 3M, and others. MCAT preparation is provided during the MSMS program through access to resources with King of the Curve. This flipped classroom/problem-based learning environment prepares students for success in the expanding professional healthcare industry.

- M.S. in Medical Sciences (https://catalog.bethel.edu/graduate/academic-programs-disciplines/medical-sciences/ms/)

Courses

MDSC 579PT • Portfolio in Medical Sciences 0.5-6 Credits
Portfolio course of preselected topics within an existing course in the field of Medical Sciences.
Special Notes: Portfolio courses are created upon request with permission by an overseeing Program Director.

MDSC 610 • Anatomy, Embryology and Imaging 9 Credits
The Anatomy, Embryology Imaging course consists of a detailed study of the normal structure, development, and organization of the human body. This course undertakes a regional approach rather than a systemic approach to Human Gross Anatomy, Embryology Imaging is distributed into three block contents. Gross structures are studied in the laboratory by software modeling. The radiology component of Gross Anatomy serves as the introduction to radiology and prepares the student for further development. Lectures stress the contribution of developmental events to gross anatomical organization and the correlation of this organization with clinically relevant conditions.
Complete Anatomy/iClicker Fee: $70.

MDSC 620 • Medical Biochemistry I 5 Credits
Medical Biochemistry is a five credit hour course designed to lay the foundation for other basic and clinical medical sciences. The goal of this course is to learn the core concepts of biochemistry that apply to human health and disease and to cite specific examples of their application. You will be able to analyze and evaluate the most common biochemistry cited in medical literature. Furthermore, these basics will facilitate further learning in biochemistry and the health sciences.

MDSC 630 • Physiology I 4 Credits
Physiology is the comprehensive study of the function of the human body on an organ system basis. Emphasis is on the integration of functions from the cellular level to that of the total organism and the application of physiology concepts to problem solving. The following units will be covered in the Physiology I course: Membrane and Action Potentials, Cellular and Systemic Physiology of the Cardiovascular and Respiratory Systems.

MDSC 640 • Histology and Cell Biology 4 Credits
Study of the many different aspects of the internal structure of cells, tissues and organs in the human body, presenting a comprehensive survey of many of their complex interrelationships.

MDSC 650 • Health Disparities 1 Credit
This course is designed to provide a general overview of gaps in health outcomes associated with health disparities. A special emphasis will be given to the social determinants of health such as race/ethnicity, social class, socioeconomic status, sex, sexuality, nationality, and migration status. The course will focus on the impact of health disparities' impact at multiple system's levels (e.g. Individual, patient-clinician, health care system, etc.).
Grade exceptions: Graded on an S/U basis.

MDSC 660 • Medical Biochemistry II 5 Credits
The major goal of the Biochemistry Course is to provide students with a complete understanding, at the molecular level, of all the chemical processes associated with living cells. Courses in the Basic Sciences Department aim to guide the student towards an understanding of basic biochemical concepts that deal with life processes.
Prerequisites: MDSC 620.

MDSC 670 • Physiology II 4 Credits
Physiology is the comprehensive study of the function of the human body on an organ system basis. Emphasis is on the integration of functions from the cellular level to that of the total organism and the application of physiology concepts to problem solving. The following units will be covered in the Physiology II course: Gastrointestinal, Renal and Endocrine Physiology Systems.
Prerequisites: MDSC 630.

MDSC 680 • Medical Microbiology 4 Credits
This course teaches students about all the most common pathogens involved in infectious illness and their characteristics. Students are also prepared their licensing examinations by providing the clinical knowledge and problem solving skills they need to approve them. Because it is very important for any physician to recognize, early in the course of any infectious disease, its etiologic agents, imparting this knowledge is the main goal and objective of the courses.

MDSC 685 • Medical Neuroscience 5 Credits
The Neuroscience Course will teach you brain function in health and disease. The course covers neuroanatomy/histology (33 lecture hours) and neurophysiology (21 lecture hours). There is also a brain dissection laboratory (7.5 hours), small group discussion sections (6 hours). For this course, efficient use of independent study time is essential.

MDSC 690 • Medical Ethics 1 Credit
This course will attempt to provide didactic experiences for medical students in specific areas within the field of medical ethics. The need for these experiences stems from the recognition that ethical dilemmas are inherent in medical care. Although dramatic issues such as cloning, abortion and organ donation have strong ethical implications, it is important to realize that the practicing doctor will face ethical decisions every day while solving more commonplace problems. Most everyday ethical questions have well- accepted answers; only the most difficult ethical questions seem to defy resolution. Even so, it is important for physicians to develop an understanding of the principles of medical ethics and a system of ethical reasoning that will result in consistent decisions.
Grade exceptions: Graded on an S/U basis.

MDSC 694 • Topics in Medical Sciences 1-4 Credits
An in-depth study of a particular Medical Sciences theme.
Special Notes: Topics courses should serve as elective courses.

MDSC 700 • Comprehensive Final Exam 0 Credit
Comprehensive examination after completion of the student's final didactic course.
Prerequisites: MDSC 610, MDSC 620, MDSC 630, MDSC 640, MDSC 650, MDSC 660, MDSC 670, MDSC 680, MDSC 685, MDSC 690. Grade exceptions: Graded on an S/U basis.