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Biomedical Science

The biomedical science program provides broad interdisciplinary graduate training in the biomedical sciences leading to the Master of Science degree. The program utilizes the faculty, facilities, and courses of Physiology, Anatomy, Molecular Biology, Microbiology and Biochemistry. The program is designed for those students who desire a broad-based curriculum in the biomedical sciences in preparation for health professions school matriculation or a health professions or research career.

Master of Science (M.S.) in Biomedical Science

Admission

All applicants must submit an application to the Biomedical Science program. Applicants must meet the minimal requirements of the Graduate School before being considered for admission to Biomedical Science. A completed application includes the program application form, two letters of recommendation, and transcripts of all previous college credit. This program requires a nonrefundable \$65 application fee that must be submitted with the application for Admissions to Graduate Study in Biomedical Science. Applicants must pay this fee by credit card.

In addition to Graduate School admission requirements, applicants must hold a bachelor's degree. In addition, applicants must have completed all, or all but a maximum of two courses, of undergraduate prerequisite science coursework:

- Two semesters with laboratory in the biological sciences;
- Two semesters with laboratory of major or pre-medical general chemistry;
- Two semesters with laboratory of major or pre-medical organic chemistry, or a one year organic chemistry/ biochemistry sequence with 2 credits of laboratory;
- Two semesters with laboratory of major or pre-medical physics.

Application forms are available online at gradschool.siu.edu/applygrad.

Advisement

Students are advised by Biomedical Science program director and faculty in Physiology. Advisement arrangements are made immediately after admission. A program of course work must be approved by the advisor and filed with the director no later than the fourth week of the first semester of registration in the program. Any deviation from the course work program during the student's tenure must be approved by the advisor and filed with the director.

Graduation Requirements

Graduation requirements include a total of 30 credit hours of 400- or 500-level courses with the following provisions:

- A minimum of 21 graded hours in biological sciences content areas, including biology, microbiology, physiology, anatomy, molecular biology, and biomedical science, or statistics.
- A 16 credit hour core curriculum consisting of:
 - BMS 505A Orientation Seminar [1 semester, 1 credit hour total].
 - BMS 506A Scientific Approach and Application I [1 semester, 2 credit hours total].

- MBMB 550A; MBMB 550B Biochemistry I & II or higher level equivalent [6 credit hours total].
- 3 credit hours of Human or Mammalian Physiology.
- 3 credit hours of Human Anatomy.
- 1 credit hour of Statistics.
- Electives totaling a minimum of 14 credit hours.
- Completion of a program-administered mock national professional school entrance examination.

Biomedical Science Courses

BMS505A - Biomedical Science Orientation Seminar Seminar on social, professional, and scientific issues of interest to students planning a career in the biomedical sciences or the health professions. Course focuses on development of professional writing and speaking skills. Restricted to BMS students. Credit Hours: 1

BMS505B - Biomedical Science Program Seminar Seminar on social, professional, and scientific issues of interest to students planning a career in the biomedical sciences. Course focuses on continued development of professional writing, and approaches to professional school application. Restricted to BMS students. Credit Hours: 1

BMS506A - Scientific Approach and Application I Focus is on application of concurrent biomedical science course material to understanding of biomedical science research and biological problem solving. Restricted to BMS students. Credit Hours: 2

BMS506B - Scientific Approach and Application II Application of concurrent biological science course material to understanding of biomedical science research and biological problem solving. Course also focuses on preparatory strategies for professional school admissions examinations. Restricted to BMS students. Credit Hours: 2

BMS509 - Statistics and Quantitative Reasoning BMS focuses on statistical methods, quantitative approaches and analytical reasoning needed for graduate and professional school problem solving, and for research data analysis encountered in graduate and professional education. Topics include applied calculations for medical practice; and statistical methods for medical research including population sampling, hypothesis testing, methods for data set comparison, diagnostic tests, randomized control trials and observational studies. Emphasis is placed on ensuring students have appropriate quantitative reasoning competencies for professional school. Restricted to students enrolled in BMS. Credit Hours: 1-3

Biomedical Science Faculty

Metz, Anneke M., Associate Professor and Director of Premedical Programs, Biochemistry, Ph.D., University of Texas, 1998; 2009. Biology education; pre-health professional education.

Last updated: 11/27/2023