Master of Science, Biomedical Sciences

Program Objective

The educational objectives for the Program correlate with the three (3) goals of the curriculum: critical thinking, communication, and professionalism.

Upon completion of the Program, the graduate shall have acquired knowledge, skills and competence related to the Program goals as evidenced by the ability to:

- Analyze individual case studies and evaluate clinical treatments relative to biochemical, genetic, physical, and microbial diagnostics (*Critical Thinking*).
- Formulate an appropriate dietary regimen (nutrition plan) based on a thorough understanding of Biochemistry and Physiology and the present health status of the individual (*Critical Thinking*).
- Demonstrate collaboration by actively engaging in interdisciplinary local and global community outreach efforts for health promotion (*Communication, Professionalism*).
- Participate in health-related research and scholarship (*Professionalism*).
- Correlate principles of molecular and cellular immunology to selected health and disease states (*Critical Thinking, Communication*).
- Demonstrate technology skills to enhance overall lifelong learning through peer-reviewed publications (*Communication, Professionalism*).
- Demonstrate achievement of the Program's objectives and synthesis of educational activities by completing a scholarly work in the form of a comprehensive examination or research proposal (*Critical Thinking, Communication, Professionalism*).

Program Description

The Master's in Biomedical Sciences Program has been designed to prepare students to advance as biomedical scientists or health care professionals. Specifically, the curriculum has been designed to educate students through rigorous, graduate level science courses in order to strengthen their application for graduate and professional school. The core basic science courses are similar to those found in the first year of the medical/dental school curriculum. Program options are as follows:

Master's Degree in Biomedical Sciences: The program consists of 33 credit hours of didactic instruction plus, a comprehensive final exam.

- Medical Track
- Pharmacy Track
- Dentistry Track
- Clinical Medicine Track
- Research Track
- Addiction Track

The program consists of 33 credit hours of didactic, laboratory or clinical instruction and a comprehensive final exam (CR) or 25 credit hours of didactic instruction and a research project (8 hours).

Course of Study

Curriculum Outline

*Core Curriculum (21 Credit Hours)

Course Number	Course Titles	Credit Hours
MSB501	Biochemistry 1	3
MSB502	Biochemistry 2	3
MSB511	Immunology & Medical Microbiology I	3
MSB512	Medical Microbiology II	3
MSB520	Molecular Genetics	4
MSB530	Neuroscience and Neuroanatomy	4
MSB589	Professional Development Seminar	1
Total		**21**

**Required or Core Courses may be substituted for other courses offered within the program, only after review by the Academic Coordinator and approval by the Dean of competency and equivalency in the course content.*

Medical Track (Core plus 12 Credit Hours)

Course Number	Course Titles	Credit Hours
MSB540	Pathophysiology	4
MSB550	Human Anatomy	4
MSB560	Human Physiology	4
Total		**12**

Dental Track (Core plus 12 Credit Hours)

Course Number	Course Titles	Credit Hours
MSB570	General Dentistry	4
MSB550	Human Anatomy	4
MSB560	Human Physiology	4
Total		**12**

Pharmacy Track (Core plus 12 credits)

Course Number	Course Titles	Credit Hours
MSB590	Thesis	4
MSPH501	Foundations in Pharmaceutical Sciences	4
MSPH502	Introduction to Clinical Pharmacy	4
Total		**12**

Research Track (Core plus 12 Credits)

Course Number	Course Titles	Credit Hours
MSB590	Thesis	4
MSB591	Research 1	4
MSB592	Research 2	4
Total		**12**

Clinical Medicine Track (Core plus 12 Credits)

Course Number	Course Titles	Credit Hours
MSBC581	Applications of Medical Science in Diagnosis, Treatment & Documentation of Diseases	4
MSBC582	Clinical Applications of Medical Science	4
MSBC583	US Healthcare System	4
Total		**12**

Addiction Track (Core plus 12 Credits)

Course Number	Course Titles	Credit Hours
MSBC680	Fundamental of Addiction	3
MSBC681	Neuro-biology of Addiction: From Bench to Bedside	3
MSBC682	Clinical Aspects of Addiction	3

MSBC683	Addiction Treatment & Clinical Management	3
Total		**12**

Program Total Hours 33