MASTER OF SCIENCE DEGREE
BIOCHEMISTRY (NON-BIOTECHNOLOGY THEMES)
Sample 2-year course schedule

Year 1			**Credit Hours**
Fall			
BIOC 407	Introduction to Biochemistry		(4)
BIOC Elective			(3)
Elective			(3)
		Sub-total	(10)
Spring			
BIOC 408	Molecular Biology		(4)
BIOC Elective			(3)
BIOC 601	Biochemical Research		(2)
		Sub-total	(9)

Year 2			**Credit Hours**
Fall			
BIOC Elective			(3)
Elective			(3)
BIOC 601	Biochemical Research		(3)
		Sub-total	(9)
Spring			
BIOC Elective			(3)
BIOC 601	Biochemical Research		(4)
EXAM 600	Master's Comprehensive Exam		(1)
		Sub-total	(8)
		Total	**(36)**

Rev 09/18

The Biochemistry MS program is very flexible; different themes are available and allow for different elective courses to be taken. Below are the available themes and elective courses:

Proteins and Enzymes - This is intended for students who wish to focus on the characteristics of proteins and nucleic acids.

- BIOC 412 Proteins and Enzymes
- BIOC 430, Advanced Methods in Structural Biology
- BIOC 434, Structural Biology
- BIOC 601, Research
- PHRM 475, Protein Biophysics
- PHOL 456, Proteins and Nucleic Acid
- BIOL 401, Biotechnology Laboratory
- BIOL 415, Quantitative Biology Laboratory
- CHEM 406, Chemical Kinetics
- CHEM 425,Physical Methods to Determine Organic Structure
- CHEM 429, Chemical Aspects of Living Systems

Biochemistry for Preprofessional Students - This is focused for students who are headed to medical school, dental school, nursing or graduate school (PhD).

- ANAT 411, Gross Anatomy
- ANAT 412, Histology and Ultrastructure
- BIOC 420, Current Topics in Cancer
- NTRN 452, Nutritional Biochemistry
- BIOL 401, Biotechnology Laboratory
- BIOL 424, Introduction to Stem Cell Biology
- BIOL 426, Genetics
- EPBI 400, Statistics as Integral to the Scientific Method
- GENE 500, Advanced Eukaryotic Genetics
- CLBY 416, Fundamental Immunology
- MBIO 434, Mechanisms of Drug Resistance
- PHRM 409, Principals of Pharmacology
- PHOL 480, Physiology of Organ Systems

Biochemistry of Disease - This area is suited for students who want to go to medical school or are interested in research that has direct application to medical therapies.

- BIOC 420, Current Topics in Cancer
- BIOC 528, Contemporary Approaches to Drug Discovery
- BIOL 424, Introduction to Stem Cell Biology.
- CLBY 416, Fundamental Immunology
- CLBY 450, Cells and Pathogens
- CLBY 526, Cell Biology and Human Disease
- GENE 500, Advanced Eukaryotic Genetics
- GENE 513, Stem Cell Genetics
- MBIO 434, Mechanisms of Drug Resistance
- MBIO 445, Molecular Biology and Pathogenesis of RNA and DNA Viruses
- MBIO 446, Virus-Host interactions
- MBIO 486 HIV Immunology, NTRN 452, Nutritional Biochemistry and Metabolism
- PATH 425, Stem Cell Biology and Therapeutics
- PHRM 409, Principles of Pharmacology
- PHRM 415, Nuclear Receptors in Health and Disease

Nutritional Biochemistry – The coursework in this area adds the components of nutrition to the basics of biochemistry. This focus is suitable for preprofessional students and for individuals with an interest in fitness, health, and public health.

- BIOL 480, Physiology of Organ Systems
- NTRN 433, Advanced Human Nutrition I
- NTRN 434, Advanced Human Nutrition II
- NTRN 455, Molecular Nutrition
- NTRN 530, Public Health Nutrition
- PHOL 481, Medical Physiology

Biochemistry and RNA Biology - This area of emphasis is ideal for students who wish to enter the world of RNA (a world where proteins are considered less important).

- BIOC 519, Molecular Biology of RNA
- BIOC 599, RNA Structure and Function
- MBIO 445, Molecular Biology and Pathogenesis of RNA and DNA Viruses
- MBIO 446, Virus-Host teractions
- MBIO 486, HIV Immunology
- PHOL 456, Proteins and Nucleic Acids
- BIOL 401, Biotechnology Laboratory
- BIOL 415, Quantitative Biology Laboratory.