

BIOCHEMISTRY AND MOLECULAR BIOLOGY (MS)

The goal of the Master of Science in Biochemistry and Molecular Biology is to train students in the basic science and methodology of Biochemistry and Molecular Biology, to allow them to apply this knowledge in jobs as research assistants in academy or the biotechnology industry, or as teachers in primary or secondary education. Students graduating with an MS degree often obtain additional education in PhD and MD programs.

Related Programs

Doctoral

- Biochemistry, Molecular and Cancer Biology (PhD) (<https://catalog.luc.edu/graduate-professional/graduate-school/health-sciences/biomedical-sciences/biochemistry-molecular-biology-phd/>)

Combined

- Biochemistry, Molecular, and Cancer Biology (MD/PhD) (<https://catalog.luc.edu/graduate-professional/dual-degree-programs/biochemistry-molecular-biology-md-phd/>)
- Microbiology and Immunology (MD/PhD) (<https://catalog.luc.edu/graduate-professional/dual-degree-programs/microbiology-immunology-md-phd/>)

Curriculum

The Master of Science in Biochemistry and Molecular Biology requires 30 credit hours of coursework and a thesis.

Coursework Requirements

Code	Title	Hours
BMSC 402	Statistical Methods for Biomedical Science	3
BMSC 405	Ethics in Biomedical Sciences	1
BMSC 410	Biochemistry and Molecular Biology	4
BMSC 412	Cell Biology	4
BMSC 416	Methods Biomedical Science	1
BMB 417	Molecular Biology	3
<i>One Elective</i>		3
BMB 490	Special Topics in Molecular Biology	
BMB 590	Molecular Biology of Oncogenesis	
ICB 403	Graduate Histology	
PIOL 401	Physiology	
PIOL 417	Cellular Physiology	
PIOL 421	Function of the Human Body I	
PIOL 422	Function of the Human Body II	
PIOL 423	Biochemical Physiology	
PIOL 450	Fundamentals Of Neurophysiology	
PIOL 461	Introduction to Human Pathophysiology	
PIOL 470	Excitability & Ion Transport	
MIIM 402	Microbes & Hosts	
MIIM 411	Basic Molecular Microbiology	
MIIM 431	The Molecular Biology of Viruses	
MIIM 442	Cell & Molecular Immunology	
NRSC 410	Cellular & Molecular Neurobiology	

PHAR 408	Molecular Basis of Disease and Therapeutics	
PHAR 409	Principles of Pharmacology	
BMB 499	Research in Molecular Biology	1-9
BMB 502	Seminar in Molecular Biology	0
BMB 595	Thesis Supervision	0
BMB 501	Molecular Biology Journal Club	1
Total Hours		30

Graduate & Professional Standards and Regulations

Students in graduate and professional programs can find their Academic Policies in Graduate and Professional Academic Standards and Regulations (<https://catalog.luc.edu/academic-standards-regulations/graduate-professional/>) under their school. Any additional University Policies supersede school policies.

Learning Outcomes

Upon completion of this program, students will be able to:

- Understand concepts in biochemistry and molecular biology.
- Develop and test research-based hypotheses
- Implement research projects in an academic setting.
- Write scientific abstracts and manuscripts on their own projects.