

MOLECULAR AND CELL BIOLOGY (BS)

This B.S. program is suitable for students with interests that integrate the organismal, cellular and subcellular levels of biology, including the areas of biochemistry, cell biology, developmental biology, genetics and genomics, and microbiology, as well as their applications in biotechnology and medical science. Many opportunities for independent research projects in these areas are open for undergraduates.

Requirements for the Major

BIOL 1107 Principles of Biology I is required in addition to the general CLAS requirements for the B.S. degree.

A minimum of 24 credits of MCB courses are required, at least nine credits of which must be at the 3000 level or above. A maximum of three credits from among MCB 3189 Clinical Research Laboratory, MCB 3899 Independent Study, MCB 4896 Undergraduate Research and MCB 4996 Honors Undergraduate Research may count toward the 24-credit requirement. Students can apply no more than six credits from among MCB 3100 Introduction to Translational Research, MCB 3189 Clinical Research Laboratory, MCB 4897W Senior Research Thesis, and MCB 4997W Senior Honors Research Thesis towards the 24-credit requirement of the major.

Required Courses

Course	Title	Credits
Group 1		
MCB 2400 or MCB 2410	Human Genetics Genetics	3
MCB 2210 or MCB 2215	Cell Biology Honors Cell Biology	3
MCB 2610	Fundamentals of Microbiology	4
MCB 2000 or MCB 3010	Introduction to Biochemistry Biochemistry	4-5
Group 2		
CHEM 2443 & CHEM 2444	Organic Chemistry and Organic Chemistry	6
Group 3		
<i>Laboratory Requirement</i>		
Select one laboratory course chosen from the following list:		3-4
MCB 2225	Cell Biology Laboratory	
MCB 2612	Honors Core: Microbe Hunters - Crowdsourcing Antibiotic Discovery	
MCB 3189	Clinical Research Laboratory	
MCB 3220	Developmental Biology Laboratory	
MCB 3413	Concepts of Genetic Analysis	
MCB 3633	Pathogenic Microbiology	
MCB 4026W	Advanced Biochemistry Laboratory	
MCB 4624	Experiments in Bacterial Genetics	
MCB 4896	Undergraduate Research (three credits)	
MCB 4996	Honors Undergraduate Research (three credits)	

For breadth of study in biology, it is recommended that students take PNB 2250 Comparative Animal Physiology and EEB 2244E General Ecology or EEB 2245 Evolutionary Biology. BIOL 2289 Introduction to Undergraduate Research may be used to count toward the 24 credits of required MCB courses.

To satisfy the MCB writing in the major and information literacy competency requirements, students must take an MCB W course.

Complete at least 12 credits of 2000-level or higher related courses outside MCB, including CHEM 2443 Organic Chemistry and CHEM 2444 Organic Chemistry.

A minor in Molecular and Cell Biology is offered. A minor in Bioinformatics is offered jointly by the College of Engineering and the College of Liberal Arts and Sciences. Both programs are described in the "Minors" section of this *Catalog*.

University General Education Requirements

Every student must meet a set of core requirements to earn a baccalaureate degree, in addition to those required by the student's major course of study and other requirements set by the student's school or college. For more information about these requirements, please see General Education Requirements (<https://catalog.uconn.edu/undergraduate/gen-ed-requirements/>).

College of Liberal Arts and Sciences Degree Requirements

Students must meet a set of requirements established by the college in addition to the University's General Education requirements. For more information, see the College of Liberal Arts and Sciences (<https://catalog.uconn.edu/undergraduate/liberal-arts-sciences/#requirementstext>) section of this catalog.