

UNDERGRADUATE EMBEDDED CERTIFICATE IN CELLULAR AND MOLECULAR BIOSCIENCES

Biology majors are eligible to complete certificates within Biology electives and free electives.

All certificates are subject to the following requirements:

- Minimum 12 credits from the list of approved courses for each certificate
- Minimum 9 credits BIOS coursework
- Minimum 9 credits of 3xxx or higher coursework
- Maximum 6 credits of Special Topics
- Maximum 3 credits Transfer Credit
- Courses may not be double-counted toward more than one certificate or minor

Students declare a certificate, select and complete at least 12 credits that correspond to the desired certificate from the list below. Complete Certificate Applications must be submitted at least two weeks prior to the end of your graduating semester. The Certificate Application will be available on the Biology Majors Portal site in Canvas.

Code	Title	Credit Hours
Select 12 credits (at least 9 credits must be Biological Sciences (BIOS):		12
BIOS 3380	Microbiology	
BIOS 3381	Microbiology Lab	
BIOS 4012	Protein Biology	
BIOS 4015	Cancer Biology and Biotechnology	
BIOS 4225	Molecular Evolution	
BIOS 4238	Ion Channels	
BIOS 4340	Medical Microbiology	
BIOS 4418	Microbial Physiology	
BIOS 4464	Developmental Biology	
BIOS 4500	Drug Discovery	
BIOS 4505	Programming in Biological and Life Sciences	
BIOS 4510	Epigenetics, Stem Cells, and Development	
BIOS 4530	Human Evolutionary Genomics	
BIOS 4545	Genetics of Complex Human Traits and Diseases	
BIOS 4550	Origin of complex life: from cells to societies	
BIOS 4560	RNA Biology and Biotechnology	
BIOS 4570	Immunology	
BIOS 4607	Molecular Biology of Microbes: Disease, Nature, and Biotechnology	
BIOS 4620	Aquatic Chemical Ecology	
BIOS 4744	Microbial Symbiosis & Microbiomes	
BIOS 4746	Signaling Molecules	

BIOS 4803 Special Topics (Chromosome Biology & Human Disease)

BIOS 4803 Special Topics (Proteomics: Technology & Applications)

CHEM 3511 Survey of Biochemistry

CHEM 3521 Biochemistry I

CHEM 3522 Biochemistry II

NEUR 3001 Cell and Molecular Neuroscience