

Biology Minor

Program Offered

- Minor in Biology

Program Description

The biology minor is designed for students outside of the Quantitative Biosciences and Engineering (QBE) major who would like to complement their degree specific learning with knowledge of fundamental biology concepts, as well as modern technical applications of biological knowledge. Our understanding of biology is growing exponentially, allowing us to begin engineering biological systems to improve the environment and human health. This minor is open to students from any program outside of QBE and is specifically valuable to students interested in the interdisciplinary applications of their degree with biological systems to address issues impacting earth, energy and the environment.

The Mines guidelines for Minor/ASI can be found in the Undergraduate Information section of the Mines Catalog.

Minor in Biology

The minor requires 18 credits, which includes 9 credits of required courses, 9 credits of elective courses and 3 credits practicum or 499-Independent Study research credits.

Required courses:

CBEN110	FUNDAMENTALS OF BIOLOGY I	4.0
CBEN120	FUNDAMENTALS OF BIOLOGY II	4.0
BIOL	400-Level Capstone Course or Journal Club *	1.0
BIOL ELECT	Biology Elective Courses	9.0
Total Semester Hrs		18.0

* Any capstone course, recitation or journal relating to biology will be allowed. This will include 400 level courses in Mechanical engineering, computer science, chemistry, physics, environmental set up as a current research recitation for a minimum of 1.0 credit. If the capstone involves more than 1.0 credit hours, additional hours may be counted towards electives. The content of this course requires course director approval to ensure the relevance to biology. There will also be prerequisites from the list of elective courses.

ELECTIVE COURSES

CBEN304	ANATOMY AND PHYSIOLOGY	3.0
CBEN305	ANATOMY AND PHYSIOLOGY LAB	1.0
CBEN311	INTRODUCTION TO NEUROSCIENCE	3.0
CBEN320	CELL BIOLOGY AND PHYSIOLOGY	3.0
CBEN321	INTRO TO GENETICS	4.0
CBEN322	BIOLOGICAL PSYCHOLOGY	3.0
CBEN324	INTRODUCTION TO BREWING SCIENCE	3.0
CBEN411	NEUROSCIENCE, MEMORY, AND LEARNING	3.0
CBEN412	INTRODUCTION TO PHARMACOLOGY	3.0
CBEN431	IMMUNOLOGY FOR ENGINEERS AND SCIENTISTS	3.0
CEEN461	FUNDAMENTALS OF ECOLOGY	3.0

CHGN428	BIOCHEMISTRY	3.0
CHGN429	BIOCHEMISTRY II	3.0
CHGN462	MICROBIOLOGY	3.0
CSCI303	INTRODUCTION TO DATA SCIENCE	3.0
MATH431	MATHEMATICAL BIOLOGY	3.0
PHGN433	BIOPHYSICS	3.0
MTGN472	BIOMATERIALS I	3.0
BIOL 499	RESEARCH PROJECT OR INTERNSHIP	3.0