BIOMEDICAL SCIENCES MAJOR (A)

The goal of the Departments of Physical Sciences and Life & Earth Sciences at Concordia University is to develop competent scientists with a Christian worldview. The graduates of this program will possess the current scientific knowledge and research/data interpretation skills so necessary for entering scientific or medical careers in industry, academia, or government. More importantly, they will be prepared to provide a Christian influence and ethical perspective to the debate on the science-related problems facing the world today.

The Biomedical Sciences major, which combines human health sciences with Concordia University Wisconsin's distinctive core curriculum with courses in theology, humanities and social sciences, should provide students with the intellectual, scientific, and ethical tools to succeed in advanced studies in the health sciences (including medical, physician assistant, dentistry, optometry, pharmacy, graduate, chiropractic, or physical therapy school) or proceed directly into the growing fields of biotechnology and drug development.

Program Learning Outcomes

Students will:

- Demonstrate an understanding of and an ability to explain major biological and related scientific concepts (Knowledge Base of Biology and Related Sciences);
- Demonstrate the ability to appropriately collect and analyze data while utilizing laboratory equipment and procedures safely and effectively (Biological Procedures and Data)
- Develop investigative and critical thinking skills to explore complex questions and solve challenging scientific problems (Scientific Inquiry);
- Demonstrate the ability to communicate scientific information effectively to both scientists and non-scientists (Scientific Communication);
- Recognize how vocations in science provide opportunities for service to Christ and others and necessitate ethical behavior in all aspects of science (Vocation and Ethics)
- Demonstrate an understanding of how/why a Christian sees evidence of God's design in nature and how to be good stewards of His creation (God's Design and Stewardship).

Curriculum

Code	Title	Hours
Core Requirements (https://catalog.cuw.edu/undergraduate/university/acad-prog/trad/core/)		**45**
Major Requirements		**61**
Electives		**14**
Minor: Optional		
Total Hours		**120**

Major Requirements

Code	Title	Hours
Required Core Classes		
CHEM 1414	General Chemistry I (Natural World: Lab Science)	
COMM 1100	Public Speaking (Recommended) (Communication)	
or COMM 2100	Interpersonal Communication	
MATH 2050	Statistics I (Natural World: Mathematics)	
PHIL 3500	Bioethical Dilemmas in Contemporary Society (Human Beings & Being Human)	
Recommended Core/Elective Courses		
MATH 2010	Calculus I (for pre-med students)	
PSY 1010	General Psychology	
SOC 1010	Introduction to Sociology (for pre-med students) (Society and Culture)	
Required Major Requirements		
BIO 1501	Functional Human Biology I	4
BIO 1502	Functional Human Biology II	4
BIO 1801	Human Anatomy and Physiology I	4
BIO 1802	Human Anatomy and Physiology II	4
BIO 2600	Biology of Microorganisms	4
BIO 3200	Cell Biology	4
BIO 3400	Genetics	4
BIO 4900	Biology Senior Seminar (1 credit course taken twice)	2
CHEM 1424	General Chemistry II	4
CHEM 2414	Organic Chemistry I	4
CHEM 2424	Organic Chemistry II	4
CHEM 3214	Biochemistry	4
PHYS 1514	General Physics I	4
PHYS 1524	General Physics II	4
Major Electives (choose a minimum of 7 credits from the following)		**7**
BIO 2800	Pathophysiology	3
BIO 3500	Immunology	3
BIO 3760	Ecology of the Tropics (Core Culture Designation)	3
BIO 3761	Ecology of the Tropics Lab	1
BIO 3990	Biology Internship [1]	1-4
BIO 4300	Pharmacology	3
BIO 4800	Human Physiology	4
BIO 4990	Undergraduate Research [1]	1-4
CHEM 3990	Chemistry Internship [1]	1-4
CHEM 4990	Undergraduate Research [1]	1-4
SCI 2400	Cosmogony	3
Total Hours		**61**

[1] No more than 4 credits of BIO 3990, BIO 4990, CHEM 3990, and/or CHEM 4990 may count towards major requirements