Applied Biology - Bachelor of Science

Biology is the study of all living organisms, from the microscopic to macroscopic. The biology faculty at the Regionals offer a wide range of courses that provide a solid background in two primary concentrations for the BS in Applied Biology: 1) Environmental Biology and 2) Human Biology & Health Sciences. Each concentration trains students in critical thinking, scientific inquiry, and the application of science to societal issues. The course of study for either concentration within Applied Biology will prepare students to formulate questions, make meaningful observations, analyze and interpret data, and arrive at conclusions. Development of these skills will enable students to recognize, address, and solve problems while gaining scientific literacy and a broad knowledge of biology. During their training as biologists students will learn how living organisms function, evolve, and interact with one another and their environment. Students majoring in Applied Biology may not major in Biology or Zoology.

Program Requirements

Environmental Biology Concentration

Code	Title	Credit Hours
Required Courses		
BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
BIO 206	Evolutionary Biology	3
BIO 209	Fundamentals of Ecology	3
BIO 342	Genetics	3
BSC 292	Applied Biology Sophomore Seminar: Planning Your Future in Applied Biology (Seminar I)	1
BSC 492	Applied Biology Senior Seminar: Becoming a Professional Biologist (Seminar II)	1
Select three of the following:		12
BIO 311	Vertebrate Zoology	
BIO 312	Invertebrate Zoology	
BIO 314	Plant and Fungal Diversity	
BSC 313	Microbial Diversity	
Professional Courses		
Select two of the following: (1 required at the 400-level)		6-7
BIO 351	Environmental Education: Focus on Natural History	
BIO 467	Conservation Biology	
BSC 321	Research in Applied Biology (Research in Applied Biology)	
or BSC 340	Internship	
BSC 415	Approaches to Problem Solving and Research in Applied Biology Capstone (Approaches to problem solving and research in applied biology)	
BSC 475	Capstone in Environmental Biology (Capstone in Environmental Biology)	
Related Hours		
CHM 141	College Chemistry	3-4
or CHM 141R	College Chemistry	
CHM 142	College Chemistry	3
CHM 144	College Chemistry Laboratory	2
CHM 145	College Chemistry Laboratory	2
ECO 201	Principles of Microeconomics	3
or POL 241	American Political System	
GLG 115L	Understanding the Earth	1
GLG 121	Environmental Geology	3
GLG 244	Oceanography	3
or GLG 307	Water and Society	
STA 261	Statistics	4-5
or MTH 151	Calculus I	
Earn 1 Tool		18-21
GIS Certificate		
Commerce Minor		
Data Intelligence Minor		
Forensic Investigation Minor		
52 hours at the 200-level or above		
Total Credit Hours		79-85

Human Biology and Health Sciences Concentration

Code	Title	Credit Hours
Required Courses		
BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
BIO 201	Human Anatomy	4
BIO 203	Introduction to Cell Biology	3
BIO 206	Evolutionary Biology	3
or BIO 209	Fundamentals of Ecology	
BIO 305	Human Physiology	4
BIO 342	Genetics	3
BSC 292	Applied Biology Sophomore Seminar: Planning Your Future in Applied Biology (Seminar I)	1
BSC 492	Applied Biology Senior Seminar: Becoming a Professional Biologist (Seminar II)	1
Professional Courses		
Select three of the following: (1 required at the 400-level)		6-7
BIO 464	Laboratory in Cell and Molecular Biology	
BSC 313	Microbial Diversity (Microbial Diversity)	
BSC 321	Research in Applied Biology	
or BSC 340	Internship	

BSC 416	Applications of Biotechnology to Human Health: Concepts and Issues (Applications of Biotechnology to Human Health: Concepts and Issues)	
MBI 361	Epidemiology	
Related Hours		
CHM 141	College Chemistry (Related Hours:)	4
or CHM 141R	College Chemistry	
CHM 142	College Chemistry	3
CHM 144	College Chemistry Laboratory	2
CHM 145	College Chemistry Laboratory	2
CHM 241 & CHM 242 & CHM 244 & CHM 245	Organic Chemistry and Organic Chemistry and Organic Chemistry Laboratory and Organic Chemistry Laboratory	4-10
or CHM 231	Fundamentals of Organic Chemistry	
CHM 332 & 332L	Outlines of Biochemistry and Outlines of Biochemistry Lab	4
MTH 151	Calculus I	4-5
or STA 261	Statistics	
PHY 161	Physics for the Life Sciences with Laboratory I	4
Earn 1 Tool		18-21
GIS Certificate		
Commerce Minor		
Data Intelligence Minor		
Forensic Investigation Minor		
52 hours at the 200-level or above		
Total Credit Hours		78-89