Botany- Bachelor of Science

For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100.

Students may double major in Botany and Zoology, but in that case only nine credits of the Advanced Hours requirement may be used for both degrees.

The Minor in Horticulture, Minor in Molecular Biology and/or the Co-major in Environmental Science may be completed along with the B.S. to obtain an emphasis in these areas.

Program Requirements: Basic Major Program Requirements

(40 BIO semester hours, 28 must be advanced hours; 23-34 related hours)

Code	Title	Credit Hours
Core Courses		
Select one of the following options:		7-8
Option A:		
BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	
Option B:		
BIO 191	Plant Biology	
Plus any BIO or MBI course from the Science and Society Perspective area in the Miami Plan		
Select the following:		
BIO 203	Introduction to Cell Biology	3
BIO 204	Evolution of Plant Biodiversity: Genes to Biosphere	4
BIO 209	Fundamentals of Ecology	3
Select at least two core plant biology courses:		8
BIO 205	Dendrology	
BIO 302	Plant Taxonomy	
BIO 314	Plant Diversity	
BIO 402	Plant Anatomy	
BIO 425	Environmental Plant Physiology	
Select at least one course in applied botany:		3-4
BIO 221	Plant Propagation	
BIO 241	Botanical Principles in Landscape Gardening	
BIO 244	Viticulture and Enology	
BIO 306	Basic Horticulture	
IES 278	Introduction to Food Systems (IES 278L encouraged)	
Select up to 3 credit hours of Independent Study/ Research/Internship		0-3
BIO 277	Independent Studies	
BIO 320	Directed Research	
BIO 340	Internship	
BIO 377	Independent Studies	
BIO 477	Independent Studies	
Select from unused courses above or from the following additional courses to equal 40 BIO hours, 28 of which must be at/above the 200-level:		12-10
BIO/CSE/MBI 256	Introduction to Programming for the Life Sciences	
BIO 342	Genetics	
BIO 351	Environmental Education: Focus on Natural History	
BIO 400	Capstone Seminar: Contemporary Issues in Biology	
BIO 422	Evolutionary and Population Genetics	
BIO 431	Global Plant Diversity	
BIO 438	Soil Ecology and Sustainable Use	
BIO 444	Molecular Biology	
BIO 464	Laboratory in Cell and Molecular Biology	
BIO 466	Bioinformatics Computing Skills	
BIO 467	Conservation Biology	
BIO 480	Departmental Honors	
BIO 481	Theory of Electron Microscopy	
BIO 483	Transmission Electron Microscopy Laboratory	
BIO 482	Scanning Electron Microscopy Laboratory	
BIO 485	Bioinformatics Principles	
BIO 491	Seminar in Biology	
Related Hours		
Take the following:		17-20
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory	
CHM 231	Fundamentals of Organic Chemistry	
or CHM 241 & CHM 244	Organic Chemistry and Organic Chemistry Laboratory	
CHM 363 & CHM 364	Analytical Chemistry and Analytical Chemistry Laboratory	
or CHM 332	Outlines of Biochemistry	
or CHM 432	Fundamentals of Biochemistry	
Select one of the following:		3-10
PHY 161 & PHY 162	Physics for the Life Sciences with Laboratory I and Physics for the Life Sciences with Laboratory II	
PHY 181 & PHY 183 & PHY 182 & PHY 184	General Physics I and General Physics Laboratory I and General Physics II and General Physics Laboratory II	
GLG 111	The Dynamic Earth	
GLG 121	Environmental Geology	
GLG 141	Geology Of U.S. National Parks	

GEO 121	Earth's Physical Environment	
Select one of the following:		3-4
STA 261	Statistics	
STA 301	Applied Statistics	
STA 462	Inferential Statistics	
Total Credit Hours		**63-77**

Note: At least one course in the Major must be at the 400 level. No more than three hours of research/internship may count toward the major.

Note: For graduate study in biological sciences, most programs require genetics and some may require a physics sequence.