BIOLOGY TEACHING LICENSURE

Program Description

Students interested in becoming secondary education biology teachers (grades 9-12) must meet specific curriculum requirements to qualify for biology teacher licensure. Many of these requirements may also count as part of the 40-credit hour Biology, B.S. (https://catalog.jmu.edu/programs/biology-bs/) requirements.

Licensure Requirements

Code	Title	Credits
Required Courses		
BIO 140	Foundations of Biology I [C3NS]	3
BIO 140L	Foundations of Biology I Laboratory [C3L]	1
BIO 150	Foundations of Biology II	3
BIO 150L	Foundations of Biology II Laboratory	1
BIO 240	Genetics	3
BIO 240L	Genetics Laboratory	1
BIO 250	Quantitative Ecology and Evolution	3
BIO 250L	Quantitative Ecology and Evolution Laboratory	1
Subtotal		16
VDOE Anatomy/Physiology Requirement		
Choose one of the following:		4
BIO 260	Foundations of Human Anatomy and Physiology	
BIO 270 & 270L	Human Physiology [C3NS] and Human Physiology Laboratory [C3L] [1]	
BIO 290 & 290L	Human Anatomy and Human Anatomy Laboratory	
BIO 320	Comparative Anatomy of Vertebrates [2]	
BIO 370	Human and Animal Physiology [2]	
Subtotal		4
VDOE Botany/Plant-Focused Requirement		
Choose one of the following:		3-4
BIO 340	Morphology and Anatomy of Vascular Plants	
BIO 360	Plant Biology	
BIO 364	Human Uses of Plants	
BIO 386	Field Botany	
BIO 402	Forest Ecology	
BIO 455	Plant Physiology	
BIO 486	Systematics of Vascular Plants	
Subtotal		3-4
VDOE Zoology/Animal-Focused Requirement		
Choose one of the following:		3-4
BIO 310	Marine Biology	
BIO 316	Animal Development	
BIO 320	Comparative Anatomy of Vertebrates [2]	
BIO 350	Paleobiology [2]	
BIO 370	Human and Animal Physiology [2]	
BIO 395	Comparative Animal Behavior	
BIO 405	Vertebrate Paleontology [2]	
BIO 412	Mammalogy	
BIO 430	Ornithology: Research and Current Advances	
BIO 449	Insect Ecology	
BIO 490	Mechanics of Animal Movement	
Subtotal		3-4
VDOE Earth Science Requirement		
Choose one of the following:		3-4
BIO/GEOL 350	Paleobiology [3]	
BIO/GEOL 405	Vertebrate Paleontology [3]	
CHEM/GEOL 355	Geochemistry of Natural Waters [4]	
GEOL 110 & 110L	Physical Geology [C3NS] and Physical Geology Laboratory [C3L]	
GEOL 115	Earth Systems and Climate Change [C3NS]	
GEOL 167	History and Philosophy of the Geosciences	
GEOL 210	Applied Physical Geology [C3NS]	
GEOL 211	Introduction to Oceanography [C3NS]	
Subtotal		3-4

1 BIO 270 and BIO 270L do not meet the biology major requirements.
2 Students must complete unique courses in each category to meet licensure requirements and have a broad preparation in the subject area.
3 This course will also fulfill biology elective hours and the VDOE zoology requirement.
4 This course will also meet a chemistry cognate requirement.