BIOME MAJOR
SECONDARY EDUCATION TEACHING PROGRAM

DOMAIN GENERAL EDUCATION (10 courses Required):
Domain II B is satisfied through completion of the Biology major, leaving ten courses to be completed to satisfy the remaining general education subdomains through courses taken outside the major department. Only courses designated (Gen. Ed. Domain) after the course title will meet general education requirements.

Common Core:  
A. ENWR 110 Composition 2  
B. MATH XXX  

Domain I:  
A. Creative Arts  
B. Humanities  
C. Language  

Domain II:  
A. Analysis, Modeling, Problem-Solving  
B. Sciences (two; one must be a lab science)  

Domain III:  
A. Perspectives on the Past  
B. Perspectives on Contemp. World  

BIOLOGY MAJOR AND RELATED COURSES:
Required Major Related Core Courses (12):  
BIOL 125 The Biology Experience  
BIOL 135/135L Foundations of Biological Science with Lab  
BIOL 208/208L Genetics with Lab  
BIOL 230 Professional Communication in Biology  
BIOL 230/230L Molecular Biology with Lab  
BIOL 402 Processes of Organic Evolution  
CHEM 107/107L Principles of Chemistry with Lab  
CHEM 108/108L Principles of Chemistry and Quantitative Analysis with Lab  
CHEM 207/207L Organic Chemistry I with Lab  
MATH 180 Precalculus (CCM)*  
MATH 208 Biostatistics OR  
ENVS 202 Data Analysis for Scientists  
*Student proficient at the precalculus level should enroll in MATH219 Calculus I to satisfy the Gen. Ed. Domain Common Core Math Requirement.

Biology Major Capstone:  
BIOL460 Research Experience in Biology**  

Additional Biology electives, Biotechnology Concentration (6):  
Students who plan to teach at the high school level will fulfill the Commonwealth’s requirements for secondary education certification in biology by completing a program similar to the general biology concentration. Students must also declare and complete the requirements for a Secondary Education Minor (see Education Department section of the catalog).

Students must take the following additional courses:  
BIOL 235/235L Principles of Human Biology with Lab OR  
BIOL 241/241L Human Anatomy & Physiology I with Lab AND  
BIOL 242/242L Human Anatomy & Physiology II with Lab  
BIOL 248/248L Principles of Ecology with Lab  
PHYS 201/201L Physics for Earth and Life Scientists with Lab  
One (1) of the following courses relating to plants:  
BIOL 203 Plants and Society  
BIOL 251/251L Vascular Plant Taxonomy with Lab  
BIOL 255/255L Plant Physiology with Lab  

Recommended Courses:  
BIOL 228/228L Microbiology with Lab  
GEOL 108/108L Physical Geology with Lab  
Additional courses are also required for a Secondary Education Minor (see Education section of the University catalog).

FREE ELECTIVES (4):  

**For students who plan to pursue an advanced degree in Biology, the following courses are strongly recommended:  
CHEM 300/300L Principles of Biochemistry with Lab  
MATH219 Calculus I  
PHYS 201/201L Physics for Earth and Life Scientists with Lab or both  
PHYS211/211L Physics I with Lab AND  
PHYS 212/212L Physics II with lab  

*An original research project is required of all Biology Majors. Prior to enrollment in BIOL469 Research Experience in Biology, the student should meet with their academic advisor and with other Biology faculty to tailor the research project to the student’s interests and career goals.
Group A: Cellular and Molecular Biology Electives
Biol 228/228L microbiology with lab
Biol 260/260L Cellular Biology with Lab
Biol 356 biology of cancer
Biol 381 theories of infectious diseases
Biol 400 trends in biotechnology
Biol 426 human immunity
Biol 432 vertebrate development
Chem 300/300L principles of biochemistry with lab or
Chem 301/301L Biochemistry I with Lab

Group B: Organismal Diversity Electives
Biol 203 plants and society*
Biol 212/212L wildlife specimen preparation techniques
Biol 232/232L invertebrate zoology with lab
Biol 251/251L Vascular Plant Taxonomy with Lab
Biol 320/320L Animal Behavior with Lab
Biol 323 Biology and Conservation of Crocodiles
Biol 236/236L Ornithology with Lab
* This course may not be used as a required plant course.

Group C: Physiology Electives
Biol 344/344L Animal Physiological Ecology* with lab
Biol 235/235L Principles of Human Physiology* with Lab
Biol 241/241L Human Anatomy and Physiology I* with Lab
Biol 242/242L Human Anatomy and Physiology II with Lab
Biol 255/255L Plant Physiology with Lab
Biol 269 Sex, Brains, and Hormones
Hlth 302 Exercise Physiology
Neur 225 Biopsychology
Neur 380 Neuropharmacology
* Only one of these courses may be taken in order to receive biology credit.

Group D: Ecological and Evolutionary Biology Electives
Biol 233/233L Comparative Vertebrate Anatomy with Lab
Biol 248/248L Principles of Ecology with Lab
Biol 291 Principles of Tropical Ecology and Conservation: Field Study
Biol 321/321L Limnology with Lab
Biol 335/335L Principles of Wildlife Biology with Lab
Biol 341/341L Marine Biology with Lab
Biol 393 Wildlife Management and Conservation Topics

Group E: Advanced Biology Electives
Biol 490 Independent Study in Biology
Biol 495 Internship in Biology