

Biology Major (B.S.)

38 credit hours required.

Required Courses:

| | Credits |
|-----------------------------|---------|
| BIOL 151 General Biology I | 4 |
| BIOL 152 General Biology II | 4 |
| BIOL 300 Ecology | 3 |
| BIOL 311 Genetics | 4 |
| BIOL 483 Current Topics | 3 |

Physiology Component:*

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| BIOL 303 Plant Physiology | 4 |
| BIOL 407 Cell Physiology | |
| BIOL 410 Human Physiology | |
| BIOL 440 Comparative Animal Physiology | |

* Choose at least one with consultation with adviser.

Concentration Courses:

Ecology and Evolutionary Biology Concentration

Recommended for everyone taking this concentration:

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|-------------------------------|---|
| BIOL 319 Evolutionary Biology | 4 |
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Recommended at least 12 hours from the following concentration specific electives:*

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| BIOL 312 Insect Ecology | 4 |
| BIOL 320 Microbiology | 4 |
| BIOL 330 Natural History of Lower Vertebrates | 4 |
| BIOL 331 Natural History of Higher Vertebrates | 4 |
| BIOL 334 Biology of Woody Plants | 3 |
| BIOL 350 Biotic Communities of South Florida | 3 |
| BIOL 351 Biology of Northern Ecosystems | 3 |
| BIOL 355 Invertebrate Zoology | 4 |
| BIOL 375 Behavioral Evolution | 4 |
| BIOL 400 Field Ecology | 4 |
| BIOL 402 Conservation Biology | 3 |
| BIOL 409 Aquatic Ecology | 4 |

*Or additional upper division biology courses to reach at least 38 hours in major.

Cell and Molecular Biology Concentration

Recommended for everyone taking this concentration:

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|--------------------------|---|
| BIOL 320 Microbiology | 4 |
| BIOL 407 Cell Physiology | 4 |

Recommended at least 8 hours from the following concentration specific electives:*

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| BIOL 321 Cell Structure | 3 |
| BIOL 410 Human Physiology | 4 |
| BIOL 415 Virology | 3 |
| BIOL 420 Medical Microbiology | 3 |
| BIOL 425 Techniques in Molecular Biology | 3 |
| BIOL 426 Immunobiology | 3 |
| BIOL 431 Developmental Biology | 3 |
| BIOL 455 Molecular Genetics | 3 |

*Or additional upper division biology courses to reach at least

38 hours in major.

Anatomy and Physiology Concentration

Recommended for everyone taking this concentration:

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| BIOL 305 Comparative Anatomy of the Vertebrates | 4 |
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Recommended at least 12 hours from the following concentration specific electives:*

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| BIOL 320 Microbiology | 4 |
| BIOL 325 Morphology of Lower Plants and Algae | 4 |
| BIOL 326 Morphology of Higher Land Plants | 3 |
| BIOL 360 Neurobiology | 3 |
| BIOL 407 Cell Physiology | 4 |
| BIOL 410 Human Physiology | 3 |
| BIOL 431 Developmental Biology | 3 |

*Or additional upper division biology courses to reach at least 38 hours in major.

Cognate Requirements*:

| | Credits |
|--------------------------------|---------|
| MATH 151 Calculus I | 4 |
| CHEM 105 General Chemistry I | 4 |
| CHEM 106 General Chemistry II | 4 |
| CHEM 341 Organic Chemistry I** | 4 |

plus one of the following

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|---------------------------------------|---|
| STAT 100 Probability and Statistics I | 3 |
| MATH 125 Probability and Statistics I | 3 |
| MATH 152 Calculus II | 4 |

Physics sequence of

| | |
|-----------------------------------|---|
| PHYS 101 College Physics I*** | 4 |
| PHYS 202 College Physics II | 4 |
| or | |
| PHYS 103 University Physics I**** | 4 |
| PHYS 204 University Physics II | 4 |

*All cognate courses must be completed with a 2.0/S or higher.

**CHEM 342 Organic Chemistry II is highly recommended for most biology majors.

***College Physics is preferred to University Physics for most majors. Please consult with your adviser.

****MATH 151 and 152 (Calculus I and Calculus II) are co-requisites for the University Physics sequence.

Marine Biology Concentration

The Marine Biology Concentration is completed by taking summer courses through an affiliation with the University of Southern Mississippi's College of Marine Science. Potsdam students travel to the Gulf Coast Research Laboratory (GCRL) in Ocean Springs, Mississippi. Students pay in-state tuition and benefit from a reduced cost for room and board. Biology students who do not elect the concentration may also take any course offered at GCRL at a reduced rate and with preferred levels of acceptance. Courses include Marine Science I - Marine Biology (prerequisite for most other courses), Oceanography, Shark Biology, Marine Mammals, Marine Ecology, and Marine Invertebrate Zoology. Courses such

as Coastal Ecology for Teachers may be of interest to students who are not biology majors.

For more information, please contact your adviser or visit the GCRL Web site: www.usm.edu/gcrl/summer_field/index.php