

Bachelor of Science in Biology: Ecology, Evolution, and Conservation Concentration

Introductory Biology and Chemistry Courses [16 credit hours]

- BIOL 104 Principles of Biology I (4)
- BIOL 106 Principles of Biology II (4)
- CHEM 163 General Chemistry I (3)
- CHEM 165 General Chemistry I Lab (1)
- CHEM 164 General Chemistry II (3)
- CHEM 166 General Chemistry II Lab (1)

Participation in Departmental Mentoring and Assessment:

- Participation in BIOL 195 and BIOL 295, and meeting with your mentor when in residence is expected.
- Students who are not able to take 195 and 295 (i.e. transfer students) may take BIOL 395 to fulfill this requirement.
- All students are also expected to participate in senior exit surveys.

Other science courses (completion of **four** of the following six options) [16 credit hours]

- CHEM 342 and 344 Principles of Organic Chemistry I with lab (3/1)
- CHEM 343 and 345 Principles of Organic Chemistry II with lab (3/1)
- PHYS 131 and 132 Physics I with lab (3/1)
- PHYS 133 and 134 Physics II with lab (3/1)
- EAS 101 and 102 Earth Systems I with lab (3/1)
- EAS 103 and 104 Earth's Dynamic Environment II with lab (3/1)

Mathematics Courses [7 credit hours]

- MATH 142 Calculus I (4)
- MATH 130 Elementary Statistics with Computers [3] or BIOL 479 Biometry [4]

Upper Division Biology Requirements [35 credit hours]

- **BIOL 301 Evolutionary Biology (3)**
- **BIOL 302 Molecular Cellular Biology I (Biochemistry & Molecular Biology) (3)**
- **BIOL 303 Principles of Genetics (3)**
- **BIOL 475 General Ecology (4)**

- **One Ecology Elective**, selected from the following list: Plant Ecology (BIOL 409), Field Ornithology (BIOL 414), Aquatic Ecology (BIOL 420), Animal Behavior (BIOL 436), Applied Ecology (BIOL 440), Ecological Risk Assessment (BIOL 445), Conservation Biology (BIOL 448), Population Biology (BIOL 467), or Landscape Ecology (BIOL 468)
- **One Evolution Elective**, selected from the following list: Comparative Anatomy of Vertebrates (BIOL 342), Sex, Evolution, and Behavior (BIOL 401), Pollination Biology (BIOL 404), Field Botany (BIOL 412), Systematic Biology (BIOL 434), Comparative Animal Physiology (BIOL 441), Applied Population Genetics (BIOL 458), or Coevolution (BIOL 477)
- **One Organismal Biology Elective**, selected from the following list: Biology of Invertebrates (BIOL 322), Biology of Plants and Fungi (BIOL 326), Ethnobotany (BIOL 328), Economic Botany (BIOL 345), Natural History of the Vertebrates (BIOL 410), Field Mammalogy (BIOL 413), Field Ornithology (BIOL 414), Biology and Classification of Orchids (BIOL 421), Biology of Amphibians and Reptiles (BIOL 426), Biology of Fishes (BIOL 428), Biology of Birds (BIOL 431), Spring Flora of the Ozarks (BIOL 433), Biology of Parasitic Organisms (BIOL 435), Biology of Mammals (BIOL 438), Comparative Animal Physiology (BIOL 441), or General Microbiology (BIOL 464)
- **One Tools Elective**, selected from the following list: Molecular Techniques (BIOL 405), Molecular Phylogenetic Analysis (BIOL 478), Microbial Ecology (BIOL 416), Introduction to GIS (BIOL 417), Intermediate GIS (BIOL 418), or GIS in Biology (BIOL 419)
- **One CMDB elective course with a lab** in the area of Cellular, Molecular, and Developmental Biology (CMDB)
- **One Plant Course**, which may also be counted as a CMDB or EEOB elective, depending on the course
- **Senior Inquiry** [BIOL 480, 481, 482, 489, 497, or 498, or a graduate-level (500-level or above) biology course]
- **BIOL elective courses** [minimum of 35 hours of 300/400 level BIOL coursework, including the required courses listed here]

Sample Four-Year Plan

B.S. in Biology: Ecology, Evolution, and Conservation

Fall of First Year	Spring of First Year
BIOL 104 Principles of Biology I [4]	BIOL 106 Principles of Biology II [4]
CHEM 163/165 General Chem. I with lab [3/1]	BIOL 195 First-Year Mentoring
	CHEM 164/166 General Chem. II with lab [3/1]
	MATH 142 Calculus I [4]
Fall of Sophomore Year	Spring of Sophomore Year
BIOL 295 Second-Year Mentoring	BIOL 303 Principles of Genetics [3]
BIOL 302 MCB I (Biochem. & Mol. Biol.) [3]	CHEM/PHYS/EAS option [3/1]
CHEM/PHYS/EAS option [3/1]	
Statistics (MATH 130 or BIOL 479) [3-4]	
Fall of Junior Year	Spring of Junior Year
BIOL 301 Evolutionary Biology [3]	Organismal Biology Elective [3]
BIOL 475 General Ecology [4]	Evolutionary Biology Elective [3]
CHEM/PHYS/EAS option [3/1]	CHEM/PHYS/EAS option [3/1]
Fall of Senior Year	Spring of Senior Year
BIOL EEOB Elective with lab [4]	Tools Course [2-3]
Ecology Elective [3]	BIOL Elective [3]
BIOL Senior Inquiry [0-3]	BIOL Elective (if credit hours are still needed)

BIOL electives must be at the 300-level or above. BIOL electives must include one CMDB elective, one EEOB elective, three laboratory courses (at least one from the CMDB group and at least one from the EEBO group), and a plant course.

For the Bachelor of Science, a total of up to 4 credit hours of Independent Research (BIOL 496), Library Project (BIOL 497), and Advanced Independent Research (BIOL 498) may be counted toward the 35 required upper-division credits. These courses do not count as structured lab courses.

Senior Inquiry options: Internship in Conservation (BIOL 480), Integrated Bioinformatics Internship (BIOL 481), Internship in Plant Science (BIOL 482), Comprehensive Examination (BIOL 489), Library Project (BIOL 497), Advanced Independent Research (BIOL 498), graduate-level biology course (500-level or above)