

# Biology BA Curriculum Checklist

Fall 2024 – Spring 2025 (updated 03/06/2024)

## Course Number & Title

- BIOL2000 Molecules & Cells (fall/spring)
- BIOL2010 Ecology & Evolution (fall/spring)
- BIOL2040 Investigations in Molecular Cell Biology Lab (fall/spring) **NOTE:** Taken after BIOL2000
- Category A: Genetics & Genomics**  
One from the following:
  - BIOL3050 Genetics (fall only) – 4 cr
  - BIOL3060 Introduction to Genetics (summer only)
  - BIOL3150 Introduction to Genomics (spring only)
- Category B: Physiology & Organismal Biology**  
One from the following:
  - BIOL3030 Comparative Vertebrate Physiology (fall only)
  - BIOL3320 Developmental Biology (spring only)
  - BIOL4110 Ornithology (not offered AY24-25)
  - BIOL4330 Human Physiology (spring only)
  - BIOL4450 Behavioral Ecology (spring only)
  - BIOL4540 Neuroscience (fall only)
- One Advanced Experience Course (see the listing on reverse side)**  
**NOTE:** Undergraduate Research can be used to satisfy the Advanced Experience requirement or one biology elective only if the student completes two semesters of research in the same laboratory
- Choose Biology courses 3000 level or above to bring the total Biology credits to 33**  
**See the reverse page for a listing of biology electives. NOTE:** 9 of the 33 credits may be from the approved BA elective list (or from another course preapproved by the department).

## CO-REQUISITES

### Chemistry

- General Chemistry 1 & 2 with Labs (CHEM1109-1110; 1111-1112)

### Math

- Calculus 1 (MATH 1100) or equivalent

## 2024-2025 BIOLOGY ELECTIVES

Biology Electives are 3 credits each unless otherwise noted.

### Fall 2024

Comparative Vertebrate Physiology (BIOL3030)  
 Cell Biology (BIOL3040)  
 Genetics (BIOL3050) – **4 cr**  
 Research Methods in Organismal Biology (BIOL3140)  
 Virology (BIOL4090)  
 Inflammation and Disease (BIOL4120)  
 Microbiology (BIOL4140)  
 Introduction to Bioinformatics (BIOL4200)  
 Human Anatomy with Lab (BIOL4260) – **4 cr**  
 Metabolic Regulation and Human Disease (BIOL4290)  
 Vaccination and Immunity (BIOL4440)  
 Neuroscience (BIOL4540)

### Spring 2025

Cell Biology (BIOL3040)  
 Foundations of Microbiology (BIOL3090)  
 Introduction to Genomics (BIOL3150)  
 Ecology in a Changing Climate (BIOL3200)  
 Developmental Biology (BIOL3320)  
 Deep Sea Biology (BIOL4030)  
 Population Genetics (BIOL4250)  
 Human Physiology with Lab (BIOL4330) – **4 cr**  
 Biological Chemistry (BIOL4350)  
 Molecular Biology (BIOL4400)  
 Behavioral Ecology (BIOL4450)  
 Cancer Biology (BIOL4510)  
 Principles of Immunology (BIOL4570)

## BIOLOGY ELECTIVES OFFERED IN OTHER DEPARTMENTS

### Fall 2024

Biochemistry I (CHEM 4461)

### Spring 2025

Biochemistry II (CHEM4462)  
 Drug Discovery and Medicinal Chemistry (CHEM5510)  
 Synthetic Biology (CHEM5513)

## ADVANCED EXPERIENCE COURSES

### Fall 2024

**Seminars (3 credits)**  
 Nobel Winning Res in Medicine or Physio (BIOL5010) – **2 cr**  
 Topics in Developmental Biology (BIOL5040) (**2 cr**)  
 Microbiome and Human Disease (BIOL5100) – **2 cr**  
 Environmental Disruptors of Development (BIOL5130)  
 Glycobiology and Human Disease (BIOL5200) – **2 cr**  
 Cancer as a Metabolic Disease (BIOL5420)  
 Biology of the Nucleus (BIOL5700)

### Spring 2025

**Seminars (3 credits)**  
 Nobel Winning Res in Medicine or Physio (BIOL5010) – **2cr**  
 Microbial Community Ecology (BIOL5071) – **2 cr**  
 Environmental Disruptors of Development (BIOL5130)  
 Seminar in Cellular Dynamics (BIOL5180) – **2 cr**  
 Movement in Biology (BIOL5220) – **2 cr**  
 Immunity and Infectious Disease (BIOL5230)  
 Topics in Nutrition and Metabolism (BIOL5250)  
 Vertebrate Biomechanics (BIOL5380)  
 Cancer as a Metabolic Disease (BIOL5420)  
 Genomics and Personalized Medicine (BIOL5430)

### **Advanced Labs (3 credits)**

Research in Phylogenetics (BIOL4075)  
 Research in Molecular Biology Lab (BIOL4830)  
 Investigations in Cellular Re-Programming (BIOL4890)  
 Advanced Lab in Cell Imaging (BIOL5450) – **2 cr**

### **Advanced Labs (3 credits)**

Research in Molecular Biology Lab (BIOL4830)  
 Advanced Lab in Cell Imaging (BIOL5450) – **2 credits**

Undergraduate Research for credit (BIOL4960 or BIOL4963) can be used to satisfy the Advanced Experience requirement or one biology elective only if the student completes **two semesters of research in the same laboratory**, with permission from the Biology Department. Undergraduate research for credit can take place on or off campus, and requires the permission of the supervising faculty member.

## Pre-Approved Biology BA Electives

*\*most courses listed below are not offered by the Biology department and offerings may change without notice*

Microbiology for the Health Professions (BIOL2200)  
 Microbiology for the Health Professions Lab (BIOL2210)  
 History of Med. & Public Health/African American Diaspora (AADS4485)  
 History of Scientific Illustration (ARTH4316)  
 Environmental Economics (ECON2278)  
 Evolutionary Economics (ECON3312)  
 Paleobiology (EESC3330)  
 Science Writing (ENGL4201)  
 Environmental Law & Policy (ENVS2256)  
 Sustainable Agriculture (ENVS3315)  
 Wildlife and Society (ENVS3354)  
 Forensic Science I (FORSS318)  
 Animals (HIST4222)  
 Science and Religion in American History (HIST4891)  
 The Ethics of Global Public Health & the Common Good (PHCG3223)

The Nature of Science (PHIL4512)  
 Metaphysics (PHIL5529)  
 Philosophy of Science (PHIL5593)  
 Introduction to Psychopathology (PSYC2234)  
 Behavioral Neuroscience (PSYC2285)  
 Psychophysiology of Stress (PSYC3329)  
 Understanding Autism Spectrum Disorder (PSYC3339)  
 Cognitive Neuroscience: Exploring Mind & Brain (PSYC3371)  
 Developmental Neuroscience (PSYC3376)  
 Neurobiology of Eating & Eating Disorders (PSYC3388)  
 Consumption, Health, & the Environment (SOCY3322)  
 Environmental Sociology I (SOCY3562)  
 HIV, AIDS & Ethics (THEO5498)

For a list of CORE courses offered Fall 2024, please visit the [website](#).