### Biology BA Curriculum Checklist

**Fall 2023 – Spring 2024 (updated 10/27/2023)**

#### 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/spring)* – 4 cr
- **BIOL3060 Genetics** *(summer only)*
- **BIOL3150 Introduction to Genomics** *(spring)* – 3 cr

#### Category B: Physiology & Organismal Biology

One from the following:
- **BIOL3030 Introduction to Physiology** *(fall)*
- **BIOL3300 Human Physiology** *(spring)*
- **BIOL4110 Ornithology** *(spring)*
- **BIOL4320 Developmental Biology** *(spring)*
- **BIOL4450 Behavioral Ecology** *(not offered in 23-24)*
- **BIOL4540 Neuroscience** *(fall)*

#### 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

**NOTE:** 9 of the 33 credits may be from the approved BA elective list (or from another course preapproved by the department)

### CO-REQUISITES

<table>
<thead>
<tr>
<th>Chemistry</th>
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<tr>
<td>General Chemistry 1 &amp; 2 with Labs (CHEM1109-1110; 1111-1112)</td>
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<tr>
<th>Math</th>
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<td>Calculus 1 (MATH 1100) or equivalent</td>
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### 2023-2024 BIOLOGY ELECTIVES

Biology Electives are 3 credits each unless otherwise noted.

#### Fall 2023
- Introduction to Physiology (BIOL3030)
- Cell Biology (BIOL3040)
- Genetics (BIOL3050) — 4 cr
- Foundations of Microbiology (BIOL3090)
- Experimental Methods in Organismal Biology (BIOL3140)
- Evolution and Development (BIOL4050)
- Virology (BIOL4090)
- Inflammation and Disease (BIOL4120)
- Ecology in a Changing Climate (BIOL4130)
- Introduction to Bioinformatics (BIOL4200)
- Human Anatomy with Lab (BIOL4260) — 4 cr
- Biological Chemistry (BIOL4350)
- Virology (BIOL4440)
- Neuroscience (BIOL4540)

#### Spring 2024
- Cell Biology (BIOL3040)
- Genetics (BIOL3050) — 4 cr
- Introduction to Genomics (BIOL3150) — 4 cr
- Human Physiology (BIOL3300)
- Human Physiology lab (BIOL3310) — 1 cr
- Deep Sea Biology (BIOL4030)
- Ornithology (BIOL4110)
- Microbiology (BIOL4140)
- Population Genetics (BIOL4250)
- Metabolic Regulation and Human Disease (BIOL4290)
- Developmental Biology (BIOL4320)
- Biological Chemistry (BIOL4350)
- Molecular Biology (BIOL4400)
- Cancer Biology (BIOL4510)
- Principles of Immunology (BIOL4570)

#### Foundation of Microbiology (BIOL3090)

#### Experimental Methods in Organismal Biology (BIOL3140)

#### Evolution and Development (BIOL4050)

#### Virology (BIOL4090)

#### Inflammation and Disease (BIOL4120)

#### Ecology in a Changing Climate (BIOL4130)

#### Introduction to Bioinformatics (BIOL4200)

#### Human Anatomy with Lab (BIOL4260)

#### Biological Chemistry (BIOL4350)

#### Virology (BIOL4440)

#### Neuroscience (BIOL4540)

#### BIOLOGY ELECTIVES OFFERED IN OTHER DEPARTMENTS

#### Fall 2023
- Biochemistry I (CHEM 4461)

#### Spring 2024
- Biochemistry II (CHEM 4462)
- Synthetic Biology (CHEM 5513)

#### ADVANCED EXPERIENCE COURSES

#### Fall 2023
- Seminars (3 credits)
  - Nobel Winning Res in Medicine or Physio (BIOL5010) — 2 cr
  - Topics in Developmental Biology (BIOL5040) — 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 2024
- Seminars (3 credits)
  - Nobel Winning Res in Medicine or Physio (BIOL5010) — 2 cr
  - Recombinant DNA Technology (BIOL5060)
  - Microbial Community Ecology (BIOL5071) — 2 cr
  - Microbiome and Human Disease (BIOL5100) — 2 cr
  - Seminar in Cellular Dynamics (BIOL5180) — 2 cr
  - Movement in Biology (BIOL5220) — 2 cr
  - Immunity and Infectious Disease (BIOL5230)
  - Topics in Nutrition and Metabolism (BIOS 5250)
  - Vertebrate Biomechanics (BIOL5380)
  - Cancer as a Metabolic Disease (BIOL5420)
  - Genomics and Personalized Medicine (BIOL5430)
  - Topics in Microbial Pathogenesis (BIOL5460)

#### Advanced Labs (3 credits)
- Research in Evolutionary Genomics (BIOL4802)
- Research in Molecular Biology Lab (BIOL4830)
- Investigations in Cellular Re-Programming (BIOL4890)
- Advanced Lab in Cell Imaging (BIOL5450) — 2 cr

#### 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 (PHCG3323)
- 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 (SOCY3362)
- HIV, AIDS & Ethics (THEO5498)

For a list of CORE courses offered Fall 2023, please visit the website.