Biology BA Curriculum Checklist
Fall 2020 – Spring 2021 (updated 2/13/20)

Course Number & Title
☐ BIOL 2000 Molecules & Cells (fall/spring)
☐ BIOL 2010 Ecology & Evolution (fall/spring)
☐ BIOL 2040 Investigations in Molecular Cell Biology Lab (fall/spring) (BIOL 2000 prereq)

☐ Category A: Genetics & Genomics
   One from the following:
   • BIOL 3150 Introduction to Genomics (spring) – 4 cr
   • BIOL 3050 Genetics (fall/spring) – 4 cr
   • BIOL 3060 Genetics (Summer only)

☐ Category B: Physiology & Organismal Biology
   One from the following:
   • BIOL 3030 Introduction to Physiology (fall)
   • BIOL 3210 Plant Biology (anticipated offering in spring)
   • BIOL 4110 Ornithology (not offered in 2020-2021)
   • BIOL 4330 Human Physiology with Lab (spring) – 4 cr
   • BIOL 4450 Behavioral Ecology (spring)

☐ One Advanced Experience Course (see the listing on reverse side)
   NOTE: Undergraduate Research can be used to satisfy the Advanced Experience requirement only if the student completes two semesters.

☐ Choose Biology courses 3000 level or above to bring the total Biology credits to 33
   NOTE: 6 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 (CHEM 1109-1110; 1111-1112)

Math
☐ Calculus 1 (MATH 1100) or equivalent
### 2020-2021 BIOLOGY ELECTIVES

Biology Electives are 3 credits each unless otherwise noted.

#### Fall
- Introduction to Physiology (BIOL 3030)
- Cell Biology (BIOL 3040)
- Genetics (BIOL 3050) – 4 cr
- Experimental Methods in Organismal Biology (BIOL 3140)
- Deep Sea Biology (BIOL 4030)
- Virology (BIOL 4090)
- Introduction to Bioinformatics (BIOL 4200)
- Human Anatomy with Lab (BIOL 4260) – 4 cr
- Developmental Biology (BIOL 4320)
- Biological Chemistry (BIOL 4350)
- Molecular Biology of Disease (BIOL 4460)
- Principles of Immunology (BIOL 4570)

#### Spring
- Cell Biology (BIOL 3040)
- Introduction to Genomics (BIOL 3150) – 4 cr
- Genetics (BIOL 3050) – 4 cr
- Evolution and Development (BIOL 4050)
- Microbiology (BIOL 4140)
- Medical Biochemistry and Metabolism (BIOL 4290)
- Human Physiology with Lab (BIOL 4340) – 4 cr
- Biological Chemistry (BIOL 4350)
- Molecular Biology (BIOL 4400)
- Vaccination and Immunity (BIOL 4440)
- Behavioral Ecology (BIOL 4450)
- Cancer Biology (BIOL 4510)
- Neuroscience (BIOL 4540)

### ADVANCED EXPERIENCE COURSES

#### Fall
- **Seminars (3 credits)**
  - Nobel Winning Res in Medicine or Physio (BIOL 5010) – 2 cr
  - Biology of the Nucleus (BIOL 5070)
  - Emerging Therapeutics (BIOL 5075) — 2 credits
  - Vaccine Development & Public Health (BIOL 5150)
  - Environmental Disruptors of Development (BIOL 5130)
  - Cancer as a Metabolic Disease (BIOL 5420)

- **Advanced Labs (3 credits)**
  - Research in Microbial Ecology (BIOL 4060)
  - Research in Evolutionary Genomics (BIOL 4802)
  - Research in Molecular Microbiology Lab (BIOL 4810)
  - Research in Molecular Biology Lab (BIOL 4830)
  - Investigations in Cellular Re-Programming (BIOL 4890)
  - Advanced Lab in Cell Imaging (BIOL 5450) — 2 credits

#### Spring
- **Seminars (3 credits)**
  - Topics in Developmental Biology (BIOL 5040) – 2 cr
  - Recombinant DNA Technology (BIOL 5060)
  - Microbial Community Ecology (BIOL 5075) — 2 credits
  - Microbiome and Human Disease (BIOL 5100) — 2 credits
  - Immunity & Infectious Disease (BIOL 5230)
  - Topics in Biomechanics (BIOL 5380)
  - Cancer as a Metabolic Disease (BIOL 5420)
  - Genomics and Personalized Medicine (BIOL 5430)
  - Synthetic Biology (BIOL 5440)

- **Advanced Labs (3 credits)**
  - Research in Molecular Biology Lab (BIOL 4830)
  - Research in Molecular Genetics Lab (BIOL 4870)
  - Advanced Lab in Cell Imaging (BIOL 5450) — 2 credits

### BIOLOGY ELECTIVES OFFERED IN OTHER DEPARTMENTS

- Biochemistry 1 (CHEM 4461), Biochemistry 2 (CHEM 4462), Agroecology (EESC 3310)

### Pre-Approved Biology BA Electives

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

| Philosophy of Science (PHIL 5593) | HIV, AIDS & Ethics (THEO 5498) |
| Environmental Economics (ECON 227801) | Metaphysics (PHIL 5529) |
| Behavioral Neuroscience (PSYC 2285) | Cognitive Neuroscience: Exploring Mind & Brain (PSYC 3371) |
| Abnormal Psychology (PSYC 2234) | Environmental Law & Policy (ENVS 2256) |
| Understanding Autism Spectrum Disorder (PSYC 3339) | Human-Wildlife Conflicts and Co-existence (ENVS 3365) |
| Cognitive Neuroscience: Exploring Mind and Brain (PSYC 3371) | Sustainable Agriculture (ENVS 3315) |
| Developmental Neuroscience (PSYC 3376) | Paleobiology (EESC 3330) |
| Neurobiology of Eating & Eating Disorders (PSYC 3388) | Animals (HIST 4222) |
| Microbiology for the Health Professions (BIOL 2200) *(spring 2021)* | Science and Religion in American History (HIST 4891) |