

Biology BA Curriculum Checklist

Fall 2022 – Spring 2023 (updated 11/10/2022)

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) – 4 cr
- Category B: Physiology & Organismal Biology**
One from the following:
 - BIOL3030 Introduction to Physiology (fall)
 - BIOL4110 Ornithology (not offered in 2022-2023)
 - BIOL4320 Developmental Biology (fall)
 - BIOL4330 Human Physiology with Lab (spring) – 4 cr
 - BIOL4450 Behavioral Ecology (spring)
 - BIOL4540 Neuroscience (spring)
- 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

Chemistry

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

Math

- Calculus 1 (MATH 1100) or equivalent

2022-2023 BIOLOGY ELECTIVES

Biology Electives are 3 credits each unless otherwise noted.

Fall 2022	Spring 2023
Introduction to Physiology (BIOL3030) Cell Biology (BIOL3040) Genetics (BIOL3050) – 4 cr Experimental Methods in Organismal Biology (BIOL3140) Virology (BIOL4090) Inflammation and Disease (BIOL4120) Microbiology (BIOL4140) Introduction to Bioinformatics (BIOL4200) Human Anatomy with Lab (BIOL4260) – 4 cr Developmental Biology (BIOL4320) Vaccination and Immunity (BIOL4440) Principles of Immunology (BIOL4570)	Cell Biology (BIOL3040) Genetics (BIOL3050) – 4 cr Foundations of Microbiology (BIOL3090) Introduction to Genomics (BIOL3150) – 4 cr Deep Sea Biology (BIOL4030) Population Genetics (BIOL4250) Medical Biochemistry and Metabolism (BIOL4290) Human Physiology with Lab (BIOL4340) – 4 cr Biological Chemistry (BIOL4350) Molecular Biology (BIOL4400) Behavioral Ecology (BIOL4450) Investigations in Biological Research (BIOL4500) Cancer Biology (BIOL4510) Neuroscience (BIOL4540)

BIOLOGY ELECTIVES OFFERED IN OTHER DEPARTMENTS

Fall 2022	Spring 2023
Biochemistry I (CHEM 4461) Synthetic Biology (CHEM5513)	Biochemistry II (CHEM4462) Drug Discovery and Medicinal Chemistry (CHEM5510)

ADVANCED EXPERIENCE COURSES

Fall 2022	Spring 2023
Seminars (3 credits) Nobel Winning Res in Medicine or Physio (BIOL5010) —2 cr Microbial Community Ecology (BIOL5071) —2 cr Emerging Therapeutics (BIOL5075) —2 cr Topics in Advanced Cell Biology (BIOL5095) Environmental Disruptors of Development (BIOL5130) Immunity and Infectious Disease (BIOL5230) Cancer as a Metabolic Disease (BIOL5420) Biology of the Nucleus (BIOL5700)	Seminars (3 credits) Nobel Winning Res in Medicine or Physio (BIOL5010) —2cr Recombinant DNA Technology (BIOL5060) Emerging Therapeutics (BIOL5075) —2 cr Microbiome and Human Disease (BIOL5100) —2 cr Vaccine Development & Public Health (BIOL5150) Topics in Biomechanics (BIOL5380) Cancer as a Metabolic Disease (BIOL5420) Genomics and Personalized Medicine (BIOL5430)
Advanced Labs (3 credits) Research in Molecular 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) Research in Molecular Genetics Lab (BIOL4870) Advanced Lab in Cell Imaging (BIOL5450)—2 credits

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) Environmental Economics (ECON2278) Paleobiology (EESC3330) Environmental Law & Policy (ENVS2256) Sustainable Agriculture (ENVS3315) Human-Wildlife Conflicts and Co-existence (ENVS3365) Animals (HIST4222) Science and Religion in American History (HIST4891)	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) HIV, AIDS & Ethics (THEO5498)
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For a list of CORE courses offered Spring 2023:

<https://www.bc.edu/content/bc-web/schools/mcas/undergraduate/core-curriculum/core-requirements.html>