

Department of Integrative Biology  
Physical Location: Science Building 2071  
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Through the study of biology, students are introduced to the cornerstones of the discipline within an evolutionary context, thereby leading to an appreciation for the diversity of life on earth and the processes supporting it. As such, graduates are well-prepared for diverse careers in biology, as well as the health sciences. Many students pursue professional degrees in dentistry, medicine, nursing, pharmacy, and physical therapy. Others seek advanced degrees in academic areas as diverse as environmental biology, genetic counseling and cell biology, which lead to jobs in academia and the public or private sector. In conjunction with teacher certification, the major prepares students to teach at the secondary school level. Regardless, our majors are instilled with a respect, concern, and sense of responsibility for life and the environment, as well as the knowledge to understand and evaluate biological advances that are transforming society. Our curriculum is designed to offer, through core and ancillary courses, a firm foundation in those areas that provide an important background for understanding life processes. Choosing from among a variety of biology electives accommodates individual interests.

#### General Notes

- Students must complete a *minimum* of 36 semester hours of biology courses (specified below).
- All courses in the major must be taken for a letter grade; pass/fail grades will not apply.
- Students must earn a "C-" (1.7) or higher in all courses used to satisfy degree requirements, with an overall minimum CU-Denver Biology cumulative GPA of a 2.0.
- 18 upper division credit hours (BIOL 3000-4000+) must be taken in residence from UCD Biology faculty.
- Courses must be taken within 10 years of graduation.
- Biology courses taken at other colleges and universities (including CU-Boulder and CU-Colorado Springs) must be approved by the UC Denver Biology BS Advisor before they can be applied toward the major requirements.
- Departmental honors will be awarded to students based on their grade point average in biology classes taken at UCD and their cumulative UCD GPA. Both GPA's must meet the following: *cum laude*  $\geq 3.5$ ; *magna cum laude*  $\geq 3.7$ ; *summa cum laude*  $\geq 3.9$ .
- All majors are encouraged to consult a Biology major advisor annually and must meet with an advisor within two semesters of graduation.
- Students with transfer credit, Advanced Placement (AP), International Baccalaureate (IB), or CLEP credits, please see our website (<http://clas.ucdenver.edu/biology/>) and the Biology major advisor for placement.
- Students declared pre-health should also consult a Health Careers advisor.
- Students pursuing a double major should consult advisors in both departments; Biology courses *may* not apply to satisfy major requirements for both majors.
- In addition to the biology major requirements listed, students must meet all graduation requirements set by the College of Liberal Arts and Sciences. Students should consult the University Catalog and CLAS Advising Office (NC 4002) for specific requirements.
- We recommend ENGL 3154 Technical Writing or ENGL 3175 Writing in the Sciences. This can be taken as an elective or can be used to fulfill the CLAS Communicative Skills requirement.
- Each course has required prerequisites to enroll. Please check when planning your schedules.

**For more information about the department, please visit our website at:  
<http://www.ucdenver.edu/academics/colleges/CLAS/Departments/biology>**

# CURRICULUM FOR THE B.S. IN BIOLOGY

**NOTE: Each course has required prerequisites to enroll. Please check when planning your schedules.**

## **I. Biology total (required courses plus electives) 36 credits — each class must be completed with a “C-” (1.7) or higher and an overall CU Denver Biology cumulative GPA of a 2.0.**

### **A. REQUIRED BIOLOGY COURSES 21 CREDITS**

These courses should be completed *prior* to the Biology electives (#B below). These courses cannot be applied to the upper division Biology electives.

1. General Biology I with Lab (BIOL 2051-3 and BIOL 2071-1)
2. General Biology II with Lab (BIOL 2061-3 and BIOL 2081-1)
3. Principles of Ecology (BIOL 3411-3)
4. Introduction to Evolution (BIOL 3445-3)
5. General Cell Biology (BIOL 3611-3)
6. General Genetics (BIOL 3832-4)

### **B. UPPER DIVISION BIOLOGY ELECTIVE COURSES 15 CREDITS** (selected to accommodate individual interests and professional goals). You must include:

1. **At least** one upper division biology lab course.
2. **At least** one 3 credit hour 4000 level BIOL course -- taken in residence from UCD Biology faculty (NOTE: BIOL 4125, 4840, 4880 and 4990 do not satisfy this requirement but can apply as biology electives).

Elective Notes:

- Biochemistry (CHEM 3810-4 or 4820-3) may be counted as biology elective hours.
- We encourage all students to consider getting research experience (Independent Study or Directed Research) or doing an internship (various work experiences off-campus). Six credits in combination of Independent Study (BIOL 3840/4840), Directed Research (BIOL 4880) or Internship (BIOL 3939) may apply as upper division biology electives.

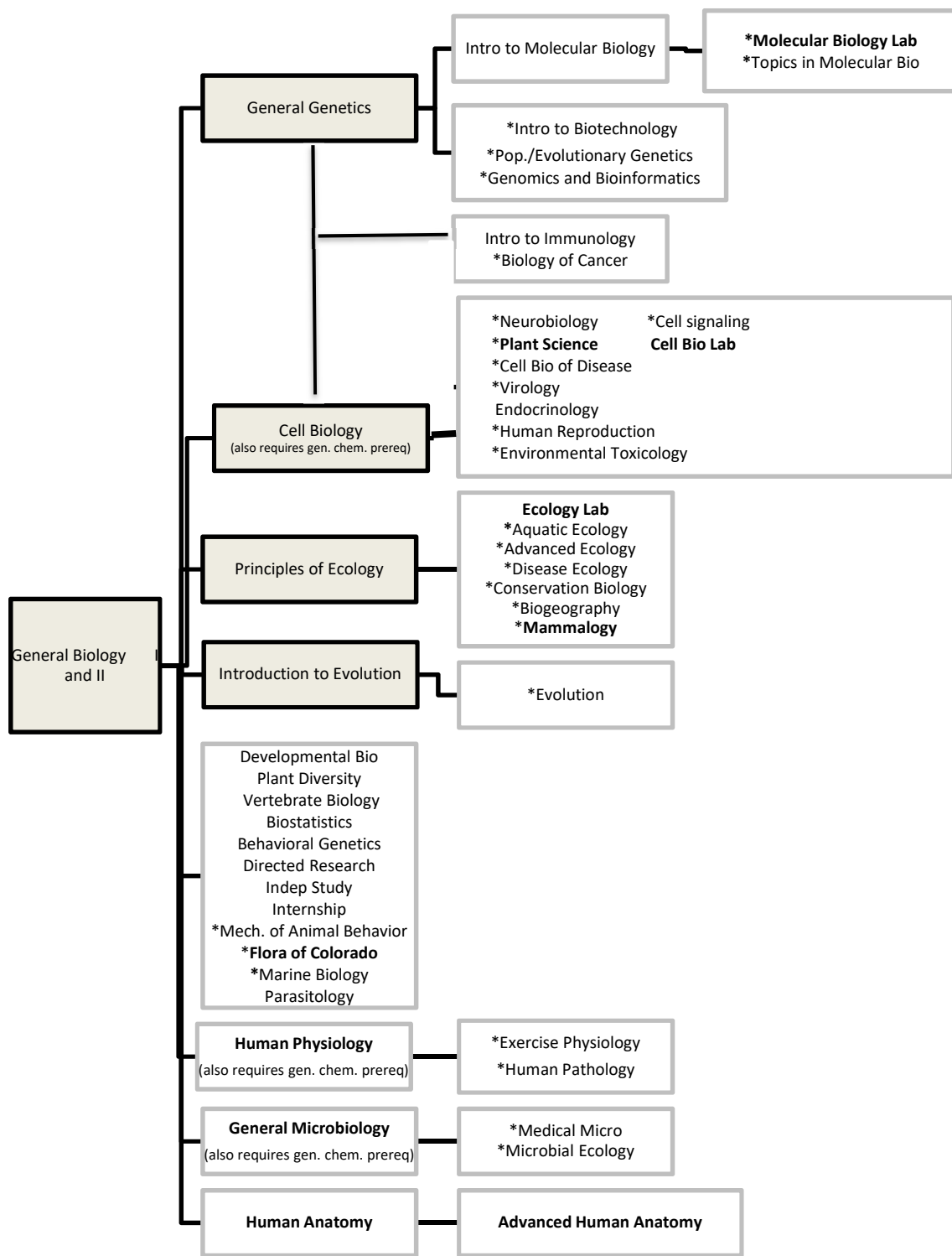
## **II. Required Ancillary Courses 31-33 credits — each class must be completed with a “C-” (1.7) or higher**

- A. Math requirement, choose one of the following three options:
  1. Calculus I (MATH 1401-4) [or Calculus II (MATH 2411) or Calculus III (MATH 2421)]
  2. College Algebra (MATH 1110-3) [or Trigonometry MATH 1120 or Precalculus MATH 1130-3] *and* Applied Statistics (MATH 4830-3)
  3. College Algebra (MATH 1110-3) [or Trigonometry MATH 1120 or Precalculus MATH 1130] *and* Introductory Biostatistics (BIOL 3763-4)
- B. Physics I (PHYS 2010-3 or PHYS 2311-4) with lab (2030-2 or 2321-1) and Physics II (PHYS 2020-3 or 2331-4) with lab (2040-2 or 2341-1)
- C. General Chemistry I and II with labs (CHEM 2031-3 and 2038-1; CHEM 2061-3 and 2068-2)
- D. Organic Chemistry I (CHEM 3411-4)

**For more information about the department, please visit our website at:  
<http://www.ucdenver.edu/academics/colleges/CLAS/Departments/biology>**

# UCD Biology Major Courses and Relative Prerequisites (effective Spring 2019)

Please note that prerequisites change frequently and this chart may not be accurate.



Classes with labs or stand-alone labs are in **bold**.

\*4000 level classes



Required for the major



Applies toward credits of required upper division biology electives