

BIOLOGY - HUMAN BIOLOGY TRACK, BS

Introduction

This track is for students interested in the human body and how it works. Students in this track may pursue careers such as health professionals, research laboratories, public health.

Program Delivery

- This is an on-campus program.

Declaring This Major

- Click here (<http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/#policiestext>) to go to information about declaring a major.

General Requirements

To earn a degree, students must satisfy all requirements in each of the three areas below, in addition to their individual major requirements.

- CU Denver General Graduation Requirements (<http://catalog.ucdenver.edu/cu-denver/undergraduate/graduation/>)
- CU Denver Core Curriculum (<http://catalog.ucdenver.edu/cu-denver/undergraduate/graduation-undergraduate-core-requirements/>)
- College of Liberal Arts & Sciences Graduation Requirements (<http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/#graduationrequirements>)
- Click here (<http://catalog.ucdenver.edu/cu-denver/undergraduate/academic-policies-procedures/>) for information about Academic Policies

Program Requirements

- Students must complete a minimum of 36 BIOL credit hours.
- Students must complete a minimum of 18 credit hours in ancillary coursework.
- Students must complete a minimum of 18 upper division (3000- level and above) BIOL credit hours.
- Students must earn a minimum grade of C- (1.7) in all courses that apply to the major and must achieve a minimum cumulative major GPA of 2.0. Courses taken using P+/P/F or S/U grading cannot apply to major requirements.
- Students must complete a minimum of 18 upper division (3000-level and above) BIOL credit hours with CU Denver faculty and at least 6 credits must be at 4000-level or higher.

Program Restrictions, Allowances and Recommendations

- Courses more than ten years old will not count automatically, but can be evaluated individually for their current relevance to the degree program through a petition process with the Department of Integrative Biology Curriculum Committee. Approval for courses older than ten years is not guaranteed so students may be required to update their knowledge by taking additional courses when past courses are outdated.

- Undergraduate students may count up to six credit hours of independent study or internship (any combination of BIOL 3840 Independent Study, BIOL 3939 Internship, BIOL 4840 Independent Study, BIOL 4880 Directed Research) toward the upper-division Biology electives requirement in the major.

Code	Title	Hours
Complete the following required biology courses:		
BIOL 2010 or BIOL 2030	Organisms to Ecosystems (Gen Bio) Honors Organisms to Ecosystems (Gen Bio)	3
BIOL 2011 or BIOL 2031	Organisms to Ecosystems Lab (Gen Bio) Honors Organisms to Ecosystems Lab (Gen Bio)	1
BIOL 2020 or BIOL 2040	Molecules to Cells (Gen Bio) Honors Molecules to Cells (Gen Bio)	3
BIOL 2021 or BIOL 2041	Molecules to Cells Lab (Gen Bio) Honors Molecules to Cells Lab (Gen Bio)	1
BIOL 3226	Human Physiology	3
BIOL 3227	Human Physiology Lab	1
BIOL 3832 or BIOL 3124	General Genetics Introduction to Molecular Biology	3
BIOL 3240	Human Anatomy Lecture	3
BIOL 3241 or BIOL 3242	Human Anatomy Cadaver Lab Virtual Human Anatomy Lab	2
Complete the following required ancillary classes:		
CHEM 2031 or CHEM 2081	General Chemistry I Honors General Chemistry I	3
CHEM 2038 or CHEM 2039 or CHEM 2088	General Chemistry Laboratory I Majors General Chemistry I Laboratory Honors General Chemistry I Laboratory	1
CHEM 2061 or CHEM 2091	General Chemistry II Honors General Chemistry II Lecture	3
CHEM 2068 or CHEM 2069 or CHEM 2098	General Chemistry Laboratory II Majors General Chemistry II Laboratory Honors General Chemistry II Laboratory	2
Choose one advanced chemistry class (Organic Chemistry I is a prereq):		
CHEM 3421 or CHEM 3422	Organic Chemistry II Majors Organic Chemistry II	3-4
CHEM 3810	Biochemistry	
CHEM 4820	General Biochemistry II	
Choose one quantitative class from this list (prereqs required):		
BIOL 3763	Biostatistics	3-4
MATH 1401	Calculus I	
MATH 4830	Applied Statistics	
Choose one writing intensive class from this list:		
COMM 4550	Rhetorics of Medicine & Health	3
ENGL 3154	Technical Writing (also satisfies CLAS Communicative Skills requirement)	
ENGL 4175	Writing in the Sciences (also satisfies CLAS Communicative Skills requirement)	
ENGL 4180	Argumentation and Logic (also satisfies CLAS Humanities requirement)	
ENGL 4280	Proposal and Grant Writing (also satisfies CLAS Humanities requirement)	

Choose at least two upper division BIOL 4000 level classes from this list, must be from UCD faculty: 6

BIOL 4024	Introduction to Biotechnology
BIOL 4053	Infectious Disease Ecology
BIOL 4055	Virology
BIOL 4064	Cell Biology of Disease
BIOL 4126	Molecular Genetics
BIOL 4134	Human Genetics
BIOL 4144	Medical Microbiology
BIOL 4165	Neurobiology
BIOL 4225	Genomics and Bioinformatics
BIOL 4250	Mechanisms of Animal Behavior
BIOL 4274	Environmental Physiology.
BIOL 4410	Microbial Genomics
BIOL 4415	Applied Microbial Ecology
BIOL 4460	Environmental Toxicology
BIOL 4463	Exercise Physiology
BIOL 4550	Cell Signaling
BIOL 4475	Mechanisms of Human Pathology
BIOL 4634	Biology of Cancer
BIOL 4674	Endocrinology
BIOL 4815	Structural Biology of Neurodegenerative Diseases
BIOL 4825	Biochemistry of Metabolic Disease
BIOL 4835	Biochemistry of Gene Regulation and Cancer

Choose at least 10 BIOL credits from the following list that have not been used anywhere above to reach 36 total credits in BIOL (recommended BIOL 3611, Cell Biology, as it is pre-req for many other elective options):

BIOL 3010	Biology Career and Professional Development Seminar
BIOL 3020	Practical Laboratory Skills
BIOL 3074	Human Reproductive Biology
BIOL 3104	Behavioral Genetics
BIOL 3124	Introduction to Molecular Biology
BIOL 3134	Advanced Topics
BIOL 3137	Advanced Special Topics with Lab
BIOL 3411	Principles of Ecology
BIOL 3445	Introduction to Evolution
BIOL 3521	Vertebrate Biology
BIOL 3525	Parasitology
BIOL 3611	General Cell Biology
BIOL 3612	Cell Biology Laboratory
BIOL 3621	Introduction to Immunology
BIOL 3650	General Microbiology
BIOL 3651	General Microbiology Lab
BIOL 3804	Developmental Biology
BIOL 3832	General Genetics
BIOL 3840	Independent Study
BIOL 3939	Internship
BIOL 4024	Introduction to Biotechnology
BIOL 4050	Advanced Biology Topics
BIOL 4053	Infectious Disease Ecology
BIOL 4055	Virology

BIOL 4064	Cell Biology of Disease
BIOL 4125	Molecular Biology Laboratory
BIOL 4126	Molecular Genetics
BIOL 4134	Human Genetics
BIOL 4144	Medical Microbiology
BIOL 4165	Neurobiology
BIOL 4225	Genomics and Bioinformatics
BIOL 4250	Mechanisms of Animal Behavior
BIOL 4274	Environmental Physiology.
BIOL 4410	Microbial Genomics
BIOL 4415	Applied Microbial Ecology
BIOL 4460	Environmental Toxicology
BIOL 4463	Exercise Physiology
BIOL 4475	Mechanisms of Human Pathology
BIOL 4550	Cell Signaling
BIOL 4634	Biology of Cancer
BIOL 4644	Advanced Human Anatomy Laboratory
BIOL 4815	Structural Biology of Neurodegenerative Diseases
BIOL 4825	Biochemistry of Metabolic Disease
BIOL 4835	Biochemistry of Gene Regulation and Cancer
BIOL 4840	Independent Study
BIOL 4880	Directed Research
CHEM 3810	Biochemistry
CHEM 4820	General Biochemistry II

Total Hours 44-46

To learn more about the Student Learning Outcomes for this program, please visit our website. (https://clas.ucdenver.edu/integrative-biology/academics/undergraduate-programs/#biology_major-73)

To review the Degree Map for this program, please visit our website (<https://www.ucdenver.edu/student/advising/undergraduate/degree-maps/clas/>).