

Courses offered by the Biology Department- a 4-year plan

(updated July 2023)

- Please note that this is a tentative plan. Changes will be made in years to come, but this list can hopefully serve you well when planning your courses.
- 600- classes are not posted here
- “Every semester = falls and springs. Summers are not represented in this document.

Highlighted are cross-listed courses that are owned by other departments

Introductory Courses

Number	Course	How often
53- FYS	Topics in Biotechnology (<i>not counting towards the major</i>)	Spring
62H- FYS	Mountains Beyond Mountains: Infectious Disease in the Developing World (<i>not counting towards the major</i>)	Every other Fall
66- FYS	The History of the Science of Life (<i>not counting towards the major</i>)	Every other Fall
101/L	Principles of Biology/Lab	Every semester
101H	Principles of Biology (Honors)	Fall
102L	Principles of Biology Lab (<i>CURE course</i>)	Every semester
117	Pre-Health Thrive-1: Considering Health Professions (<i>not counting towards the major</i>)	Every Fall
118	Pre-Health Thrive-2: Pursuing Health Professions (<i>not counting towards the major</i>)	Every Spring

Fundamental and Core Courses

Number	Course	How often
103	How cells function	Every semester
104	Biodiversity	Every semester
105L	Biological Research Skills	Every semester
220	Molecular Genetics	Every semester
220H	Molecular Genetics (Honors)	Spring
240	Cellular Biology	Every semester
240H	Cellular Biology (Honors)	Spring
250	Evolutionary Biology	TBA
260	Introduction to Ecology	Fall

Teaching, Research and CURE courses

Number	Course	How often
102L	Principles of Biology Lab (<i>CURE</i>)	Every semester
221/L	Introduction to Research in Biology- Seafood forensics (<i>CURE</i>)	Fall
255H/L	Honors Evolution of Extraordinary Adaptations Lab (Honors) (<i>CURE</i>)	Every other Spring
293	Biology Internship (<i>not counting towards the major</i>)	Every semester/summer
295	Biology Educational Research (<i>not counting towards the major</i>)	Every semester
395/395H/495	Undergraduate Research	Every semester
692H	Senior Honors Thesis in Biology	Every semester

Neurobiology and behavior

Number	Course	How often
278/L	Animal Behavior/Lab	Every semester
450	Neurobiology	Every other Spring
455	Behavioral Neuroscience	Spring
547	Synaptic Plasticity	Every Spring

Cell and Developmental Biology

Number	Course	How often
431	Biological Physics	Fall
439	Introduction to Signal Transduction	Every other Fall
440	Stem Cell Biology	Fall
443	Developmental Biology	Fall
447/L	Lab in Cell Biology/Lab	Every other Spring
448	Advanced Cell Biology	
514H	Evolution and Development (Honors)	Every Fall
542	Light Microscopy	Fall
543	Cardiovascular Biology	Fall
545	Exploring Gut, Brain, and Immunity	Fall
544L	Lab in Diseases of the Cytoskeleton	Fall

Plant Biology

Number	Course	How often
217	The Physician's Garden	TBA
271/L	Plant Biology/Lab	Every other Spring
272/L	Local Flora/Lab	Fall
436H	Plant Genetics, Development, and Biotechnology (Honors)	Spring

Physiology, Microbiology, and Disease

Number	Course	How often
117	Pre-Health Thrive (<i>not counting towards the major</i>)	Fall
118	Pre-Health Thrive (<i>not counting towards the major</i>)	Spring
252/L	Human Anatomy and Physiology /Lab	Every semester
252H	Human Anatomy and Physiology (Honors)	
253/L	Advanced Human Anatomy and Physiology /Lab (<i>not counting towards the major</i>)	Spring
402	Infectious Disease in the Developing World	Every other Spring
422/L	Microbiology/Lab	Fall
445	Cancer Biology	Spring
449	Immunology	Spring
451/L	Comparative Physiology/Lab	Spring
453	Molecular Control of Metabolism & Metabolic Disease	Spring
523	Sex Differences in Human Disease	Spring
546	Biology of Aging	Spring
552	Behavioral Endocrinology	TBA

Genetics, Molecular Biology and Biochemistry

Number	Course	How often
221/L	Introduction to Research in Biology- Seafood forensics (<i>CURE</i>)	Fall
405	Good Genes: Human Reproduction in the Social Context	Spring
425	Human Genetics	Fall
427	Human Diversity and Population Genetics	Fall
430	Introduction to Biochemistry	Every semester
434	Molecular Biology	Fall
454	Evolutionary Genetics	Fall
525/L	Computational Analyses and Resources in Genomics/Lab	Fall
528/L	Systems Biology of Genetic Regulation/Lab	Spring
590	The Genome Editing Revolution	Spring

Ecology and Evolution

Number	Course	How often
214H	Mathematics of Evolutionary Processes (Honors)	Every other Spring
255H/L	Honors Evolution of Extraordinary Adaptations Lab (Honors) (<i>CURE</i>)	Every other Spring
454	Evolutionary Genetics	Fall
462	Marine Ecology	TBA
469	Behavioral Ecology	Fall
471/L	Evolutionary Mechanisms/Lab	Spring
474/L	Evolution of Vertebrate Life/Lab	Fall
514H	Evolution and Development (Honors)	Every Fall
553/L	Mathematical & Computational Models in Biology/Lab	Fall
562	Statistical Analysis in Env. Science	TBA
568	Disease Ecology & Evolution	Fall

Animal Biology

None	Course	How often
278/L	Animal Behavior/Lab	Every semester
350	Oceanography	Every year/semester
451/L	Comparative Physiology/Lab	Spring
456	Marine Phytoplankton	
457	Marine Biology	Spring
474/L	Evolution of Vertebrate Life/Lab	Fall
475/L	Biology of Marine Animals/Lab	Every other Spring
476/L	Avian Biology/Lab	Every other Spring

Quantitative Biology

Number	Course	How often
214H	Mathematics of Evolutionary Processes (Honors)	Every other Spring
222	Programming in Biology <i>(counting only as a programming/comp class)</i>	
224H/L	Mathematics of Life (Honors)/Lab	Every other Spring
431	Biophysics	Fall
454	Evolutionary Genetics	Fall
525/L	Computational Analyses and Resources in Genomics/Lab	Fall
528/L	Systems Biology of Genetic Regulation/Lab	Spring
553/L	Mathematical & Computational Models in Biology/Lab	Fall
534	Mathematical Modeling in Biology	
542	Light Microscopy	Fall
Comp 555	Bioalgorithms	
562	Statistical Analysis in Environmental Science	TBA

Courses that will probably not be offered in the near future

Number	Course	Comments
213	Evolution & Life	
226/L	Mathematical Methods for QBiol	
256	Mountain Biodiversity	Probably not in the near future (ENEC 256)
294H	Service learning - APPLES	
273/L	Horticulture	
274/L	Plant Diversity/Lab	
277/L	Vertebrate Field Zoology	
410	Principles and Methods of Teaching Biology	
423/L	Laboratory Experiments in Genetics	
424	Microbial Ecology	
441/L	Vertebrate Embryology/Lab	
442	Self-Assembly in Biology	
444	Molecular Basis of Disease	
446	Unsolved Problems in Cellular Biology	
453	Animal societies	
458	Sensory Neurobiology	
461	Fundamentals of Ecology	
463	Field Ecology	
464	Global Change Ecology	
465	Global Biodiversity & Macroecology	
472/L	Plant Taxonomy	
473/L	Mammalian Morphology and Adaption	

478/L	Invertebrate Paleontology	
501	Ethical Issues in the Life Sciences	
522	Bacterial genetics	
524	Host-Microbe Interactions	
526H	Computational Genetics (Honors)	
529	Clinical Aspects of Human Genetics	Probably not in the near future (GENT 635)
535	Lab in Molecular Biology Techniques	
537	Biotechnology and Synthetic Biology	
551	Comparative Biomechanics	
554	Introduction to Computational Neuroscience	
555/L	Paleobotany	
556	Evolution of Animal Flight	
561	Ecological Plant Geography	
563	Statistical Analysis in Ecology & Evolution	
567	Evolutionary Ecology	