

Courses offered by the Biology Department during the fall semester of 2020

Please note that this list does NOT replace the undergraduate bulletin or Connect Carolina. Check both for the courses you find interesting and make sure you understand all the details. Connect Carolina should be your primary source for course listings. Classes and instructors are subject to change. 600 level courses are open to exceptionally advanced undergraduates, with a special permission from the instructor. You can accumulate 3 hours of different 600-level courses for them to count as a biology elective

Introductory Courses

Number	Course	Instructors	Prereq.	Credit hours	Comments
64	FYS- Modeling fluid flow through and around organs and organisms	Miller		(3)	Does not count for the major
89	FYS- Genes & Determinism	Hibshman & Murray		(3)	Does not count for the major
101	Principles of Biology	Evans; Garland		(3)	Gateway course
101H	Principles of Biology (Honors)	Eylers		(3)	Gateway course
101L	Introductory Biology Lab	Stegenga		(1)	Gateway course
102L	Introductory Biology CURE Lab- Hunting for Microbes	Stegenga		(1)	CURE class. Counts same as 101L. Counts as EE
115	Reasoning with Data: Navigating a Quantitative World	Vision		(3)	Does not count for the major
117	Considering Health Professions	TBA		(1)	Does not count for the major
190L	Molecular Genetics Bootcamp	Sjogren & Jones		(1)	Does not count for the major

Core Courses

Number	Course	Instructors	Prerequisites	Credit hours	Comments
201	Ecology and Evolution	Evans & Burch (both sections)	101+ chem 101 or 102 (grade C or better)	(4)	
202	Molecular Biology and Genetics	Garland; Garland; TBA	101+ chem 101 or 102 (Grade C or better)	(4)	
202H	Molecular Biology and Genetics (Honors)	Matson	101+ chem 101 or 102 (Grade C or better)	(4)	
205	Cellular and Developmental Biology	Peifer & Werner; Rogers & Nimchuck	202 (grade C- or better)	(4)	

Cell and Developmental Biology

Number	Course	Instructors	Prerequisites	Credit hours	Comments
217	Physician's Garden	A. Jones	101	(3)	Transfer students only
431	Biological Physics	Falvo	Phys 118, 119	(3)	QBiol; Crosslisted with phys 405
440	Stem Cell Biology	Gordon	205	(3)	
443	Developmental Biology	McKay	205	(3)	
446	Unsolved Problems in Cell Biology	Harris	205	(3)	
450	Neurobiology	Dickerson & Hige		(3)	
514H	Evolution & Development (Honors)	D. Pfennig	201;202;205	(3)	
542	Light Microscopy	P. Maddox & Bloom	205 + permission of the instructor	(3)	QBiol
543H	Cardiovascular Biology (Honors)	Bautch	205	(3)	
544L	Lab in Diseases of the Cytoskeleton	Slep & Rogers	205; 430	(3)	
680-2	Modern experimental approach in zebrafish to study human-relevant biology and disease	Shiau	Permission of the instructor	(1)	

Neurobiology and Behavior

Number	Course	Instructors	Prerequisites	Credit hours	Comments
252	Human Anatomy and Physiology	Shemer; TBA	101/L	(3)	
252L	Human Anatomy and Physiology Lab	Johnson	101L, co-req 252	(1)	Lab
278	Animal Behavior	C. Lohmann	101/L	(3)	Counts as organismal, when 278 + 278L are completed
278L	Animal Behavior lab	C. Lohmann	Pre- or co- 278	(1)	
450	Neurobiology	Dickerson & Hige		(3)	

Physiology, Microbiology, and Disease

Number	Course	Instructors	Prerequisites	Credit hours	Comments
252	Human Anatomy and Physiology	Shemer; TBA; TBA	101/L	(3)	
252L	Human Anatomy and Physiology Lab	Johnson	101L, co-req 252	(1)	Lab
422	Microbiology	Matthysse	202	(3)	Counts as organismal when 422 & L are completed
422L	Microbiology Laboratory	Matthysse	Permission of the instructor	(1)	
543H	Cardiovascular Biology (Honors)	Bautch	205	(3)	
680-2	Modern experimental approach in zebrafish to study human-relevant biology and disease	Shiau	Permission of the instructor	(1)	

Genetics, Molecular Biology and Biochemistry

Number	Course	Instructors	Prerequisites	Credit hours	Comments
221	Seafood Forensics	Bruno	Pre- 101;Coreq 221L	(3)	CURE Lab. Counts as EE
221L	Seafood Forensics Lab	Bruno	Co-requisite 221	(1)	
425	Human Genetics	Copenhaver & Sekelsky	202	(3)	
427	Human Diversity and Population Genetics	C. Jones	201, 202	(3)	
430/430H	Introduction to Biochemistry	TBA	101, chem260/262H	(3)	Crosslisted with chem 430
434	Molecular Biology	Matera; Matson	202 & chem 261	(3)	
454	Evolutionary Genetics	Matute	201 & 202	(3)	QBiol
537	Biotechnology and Synthetic Biology	Reed	202	(3)	
621	Principles of Genetic Analysis I	Copenhaver, Ahmed, Sekelsky	202 and permission of the instructor	(3)	Crosslisted with gnet 621
639	Seminar in Plant Molecular and Cell Biology	Kieber	permission of the instructor	(1)	

Plant Biology

Number	Course	Instructors	Prerequisites	Credit hours	Comments
217	Physician's Garden	A. Jones	101	(3)	Transfer students only
272	Local Flora	Weakley & Poindexter	101/L	(4)	Lab; Counts as organismal
639	Seminar in Plant Molecular and Cell Biology	Kieber	permission of the instructor	(1)	

Ecology and Evolution

Number	Course	Instructors	Prerequisites	Credit hours	Comments
256	Mountain Biodiversity	TBA		(4)	Crosslisted with enec 256. Taught at Highlands, NC
272	Local Flora	Weakley	101/L	(4)	Lab; Counts as organismal
452	Marine Microbial Symbioses	Septer		(3)	Crosslisted with masc 446
454	Evolutionary Genetics	Matute	201 & 202	(3)	QBiol
461	Fundamentals of Ecology	Tucker	201	(4)	Lab; Crosslisted with enec 461
465	Global Biodiversity & Macroecology	Hurlbert	201	(3)	QBiol
469	Behavioral Ecology	Pfennig K.	201	(3)	
474	Evolution of Vertebrate Life	Sockman	201 or 202	(3)	Counts as organismal when 474 and 474L are completed
474L	Evolution of Vertebrate Life Lab	Johnson	Pre- or co-474	(1)	
514H	Evolution & Development (Honors)	D. Pfennig	201;202;205	(3)	
562	Statistics for Environmental Scientists	Umbanhowar	Stor 155	(4)	QBiol lab
659	Seminar in Evolutionary Biology	Servedio	Permission of the instructor	(2)	
669- 001	Seminar in Ecology	Mitchell	201	(1)	
669- 002	Seminar in Ecology	Waitt	201	(2)	

Zoology and Animal Physiology

Number	Course	Instructors	Prerequisites	Credit hours	Comments
278	Animal Behavior	C. Lohmann	101/L	(3)	Counts as organismal, when 278 + 278L are completed
278L	Animal Behavior lab	C. Lohmann	Pre- or co- 278	(1)	
350	Oceanography	Arnosti		(3)	Crosslisted with masc401
452	Marine Microbial Symbioses	Septer		(3)	Crosslisted with masc 446
474	Evolution of Vertebrate Life	Sockman	201 or 202	(3)	Counts as organismal when 474 + 474L are completed
474L	Evolution of Vertebrate Life Lab	Johnson	Pre- or co- 474	(1)	

Quantitative Biology

Number	Course	Instructors	Prerequisites	Credit hours	Comments
226	Mathematical Methods for Quantitative Biology	Taylor	201 or 202; Math 232 corequisite 226L	(3)	QBiol lab
226L	Mathematical Methods for Quantitative Biology- lab	Taylor	corequisite 226	(1)	
431	Biological Physics	Falvo	Phys 118, 119	(3)	QBiol; Crosslisted with phys 405
454	Evolutionary Genetics	Matute	201 & 202	(3)	QBiol
465	Global Biodiversity & Macroecology	Hurlbert	201	(3)	QBiol
525	Analysis and Interpretation of Sequence-Based Functional Genomics	Furey	Corequisite 525L; Pre- biol 202, comp 110/biol116, stor 155	(3)	QBiol
525L	Analysis and Interpretation of Sequence-Based Functional Genomics Lab	Furey	Corequisite 525	(1)	QBiol Lab
534	Mathematical Modeling in the Life Sciences	Mitran	Math 383	(3)	QBiol; crosslisted with math 564
542	Light Microscopy	P. Maddox & Bloom	205 + permission of the instructor	(3)	QBiol
562	Statistics for Environmental Scientists	Umbanhowar	Stor 155	(4)	QBiol lab
680-1	Advanced Seminar: Analyzing Biological Data Using Deep Learning	Hedrick	Permission of the instructor	(1)	

Teaching, Research and Others

Number	Course	Instructors	Prerequisites	Credit hours	Comments
291	Teaching apprentice in Biology	Faculty members	GPA biology 3.0 or higher; Permission of the instructor	(1)	Does not count for the major
292	Teaching assistant in Biology	Faculty members	GPA biology 3.0 or higher; Permission of the instructor	(2)	Does not count for the major
293	Internship in Biology	Coble	201 or 202; Permission of the instructor. For majors only	(3)	Does not count for the major. Counts as EE
395/495	Undergraduate Research	Faculty members	201 or 202; Permission of the instructor. For majors only	(1-3)	Counts as a lab if taken for 6 hr. or 3hr + 692H. Counts as EE
395H	Undergraduate Research (Honors)	Shemer	201 or 202 and GPA 3.0 or higher; Permission of the instructor	(1-3)	Counts as a lab if taken for 6 hr. or 3hr + 692H. Counts as EE
409L	Printmaking and Biology	Goldstein & Grabowski	Co-req with arts409H; a 200-level course in Biol/ Studio Art; permission of instructor	(1)	Does not count for the major. Counts as EE
410	Principles and Methods of Teaching Biology	Coble	202 and 201/205; Permission of the instructor	(4)	Counts as EE
680-1	Advanced Seminar: Analyzing Biological Data Using Deep Learning	Hedrick	Permission of the instructor	(1)	
692H	Senior Honors Thesis	A. Maddox	395; Permission of the instructor; candidates for degrees with Honors. Cumulative and biology GPA = 3.3 or above.	(3)	Seniors majors only