

## Courses offered by the Biology Department during the fall semester of 2019

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 courses for graduate students and 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
62	FYS- Mountains Beyond Mountains: Infectious Disease in the Developing World	Peifer		(3)	Does not count for the major
64	FYS- Modeling fluid flow through and around organs and organisms	Miller		(3)	Does not count for the major
66	FYS- The History of the Science of Life	Kingsolver & Wolfe		(3)	Does not count for the major
101	Principles of Biology	Evans; Garland		(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

### 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	K.Hogan & Shemer; 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	Steinwand & Peifer; Garland	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
439	Introduction to Signal Transduction	Kieber	205	(3)	
442	Self-Assembly in Biology	Gladfelter	205	(3)	
443	Developmental Biology	McKay	205	(3)	
446	Unsolved Problems in Cell Biology	Harris	205	(3)	
450	Neurobiology	K. Lohmann & Hige		(3)	
490H	Cardiovascular Biology	Bautch	205	(3)	
542	Light Microscopy	P. Maddox & Bloom	205 + permission of the instructor	(3)	QBiol
590	Exploring Gut, Brain and Immunity	Shiau	205 + permission of the instructor	(3)	
643	Molecular Mechanisms of the Cytoskeleton	Slep & Rogers	205; 430	(3)	
649	Seminar in Cell Biology	P. Maddox	205	(2)	

## 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	K. Lohmann & Hige		(3)	

## Physiology, Microbiology, and Disease

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
422	Microbiology	Matthysse	202	(3)	Counts as organismal when 422 & 422L are completed
422L	Microbiology Laboratory	Matthysse	Permission of the instructor	(1)	
426H	Biology of Blood Diseases Honors	Church	205	(3)	Crosslisted with path 426
490H	Cardiovascular Biology	Bautch	205	(3)	

## Plant Biology

Number	Course	Instructors	Prerequisites	Credit hours	Comments
217	Physician's Garden	A. Jones	101	(3)	Transfer students only
272	Local Flora	Weakley	101/L	(4)	Lab; Counts as organismal
555	Paleobotany	Gensel	Pre- 202 and another bio above 202 ; Co-requisite 555L	(3)	
555L	Paleobotany Lab	Gensel	Co-requisite 555	(1)	Counts as EE
639	Seminar in Plant Molecular and Cell Biology	Reed	permission of the instructor	(1)	

## Genetics, Molecular Biology and Biochemistry

Number	Course	Instructors	Prerequisites	Credit hours	Comments
221	Seafood Forensics	Bruno & Steinwand	Pre- 101;Coreq 221L	(3)	Lab. Counts as EE
221L	Seafood Forensics Lab	Bruno & Steinwand	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	Pielak	101, chem260/262H	(3)	Crosslisted with chem 430
434	Molecular Biology	Matera	202 & chem 261	(3)	
442	Self-Assembly in Biology	Gladfelter	205	(3)	
454	Evolutionary Genetics	Matute	201 & 202	(3)	QBiol
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	Reed	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
454	Evolutionary Genetics	Matute	201 & 202	(3)	QBiol
461	Fundamentals of Ecology	White & TBA	201	(4)	Crosslisted with enec 461
465	Global Biodiversity & Macroecology	Hurlbert	201	(4)	QBiol
474	Evolution of Vertebrate Life	Johnson	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)	
562	Statistics for Environmental Scientists	Umbanhowar	Stor 155	(4)	QBiol
659-001	Seminar in Evolutionary Biology	D. Pfennig	Permission of the instructor	(2)	
659-002	Seminar in Evolutionary Biology	Vision	Permission of the instructor	(2)	

## 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	(4)	QBiol
528	Systems Biology of Genetic Regulation	Laederach	Corequisite 528L; Pre- biol 202, comp 116/biol226, math 232	(3)	QBiol
528L	Systems Biology of Genetic Regulation Lab	Laederach	Corequisite 528	(1)	QBiol Lab
542	Light Microscopy	P. Maddox & Bloom	205 + permission of the instructor	(3)	QBiol
553	Mathematical & Computational Models in Biology	Hedrick & Servedio	201&202; math231; math232/stor155; Co-req 553L	(3)	QBiol lab; Crosslisted with Math 553
553L	Mathematical Biology Lab	Hedrick & Servedio	Co-requisite 553	(1)	Crosslisted with math 553L
562	Statistics for Environmental Scientists	Umbanhowar	Stor 155	(4)	QBiol

## 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
474	Evolution of Vertebrate Life	Johnson	201 or 202	(3)	Counts as organismal when 474 + 474L are completed
474L	Evolution of Vertebrate Life Lab	Johnson	Pre- or co- 474	(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
692H	Senior Honors Thesis	Matson	395; Permission of the instructor; candidates for degrees with Honors. Cumulative and biology GPA = 3.3 or above.	(3)	Seniors majors only