

## Courses offered by the Biology Department during the fall semester of 2024

Please note that this list does NOT replace Connect Carolina. CC should be your primary source for course listings. Classes and instructors are subject to change. You can accumulate 3 hours of different 600-level courses for them to count as a biology elective. Courses highlighted in yellow are offered by other departments and are crosslisted as bio electives. We cannot guarantee that they will be offered.

### Introduction and Core Courses

Number	Course	Professors	Prerequisites	Credit hours	Comments
101	Principles of Biology	Claytor; Hastie	None	(3)	Gateway course
101L	Introductory Biology Lab	Stegenga	None	(1)	Gateway course
102L	Introductory Biology Lab Research	Stegenga	None	(1)	Gateway course
103	How Cells Function	Garland; Ott; Ott	101	(3)	Fundamental in the new curriculum
104	Biodiversity	Claytor; Evans	101	(3)	Fundamental in the new curriculum
105L	Biological Research Skills	Hastie; Hastie	101/L	(1)	Fundamental in the new curriculum
117	Considering Health Professions	Garland	None	(1)	For all pre-health students. Does not count for the major.
220	Molecular Genetics	Shemer; Peifer; Zwemer	103	(3)	Core class in the new curriculum
240	Cell Biology	Rogers & Slep	103	(3)	Core class in the new curriculum
250	Evolutionary Biology	Willett	104	(3)	Core class in the new curriculum

## 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; Alperin		(3)	Crosslisted with emes 401
456	Marine Phytoplankton	Marchetti		(3)	Crosslisted with emes 444
474	Evolution of Vertebrate Life	Sockman	201 or 202 or 103+104	(3)	Counts as organismal when 474 and 474L are completed
474L	Evolution of Vertebrate Life Lab	Johnson	Pre- or co- 474	(1)	

## Ecology, Botany and Evolution

Number	Course	Instructors	Prerequisites	Credit hours	Comments
272	Local Flora	Weakley	101/L	(4)	Lab; Counts as organismal
290H	Programming for Biogeography	Feng		(3)	
454	Evolutionary Genetics	Johri	201&202 or 103&104	(3)	QBiol
464	Global Change Ecology	Riddell	201 or 103+104+260	(3)	
469	Behavioral Ecology	Pfennig K.	201 or 103+104	(3)	
474	Evolution of Vertebrate Life	Sockman	201 or 202 or 103+104	(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
639	Seminar in Plant Molecular and Cell Biology	Kieber	permission of the instructor	(1)	

## Cell and Developmental Biology

Number	Course	Instructors	Prerequisites	Credit hours	Comments
431	Biological Physics	Hill	Phys 118, 119	(3)	QBiol; Crosslisted with phys 405
440	Stem Cell Biology	Gordon	202 or (103+104)+(220 or 240)	(3)	
447	Cell Biology: Beyond Core Basics	Slep	205 (C or better) or (103+104+240). Co-requisite 447L	(1)	
447L	Cell Biology Lab	Slep & Rogers	Co-requisite 447	(3)	Counts as lab.
448	Advanced Cell Biology	Ott	205 or 103+104+ 240	(3)	
449	Introduction to Immunology	Garland	205	(3)	
514H	Evolution & Development (Honors)	D. Pfennig	201;202;205	(3)	
542	Light Microscopy	P. Maddox & Prunet	205 + permission of the instructor	(3)	QBiol
543H	Cardiovascular Biology	Bautch	205 or 104+220+240	(3)	
649	Seminar in Recent Biological Research and Methods	Shiau	205 or 240	(2)	

## 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)	
290L- 402	Construct a CRISPR plasmid	Nagpal	permission of the instructor	(2)	Lab (but not a full elective w/L)
290- 002 + 290L- 403	Communicating Genome Sci	Nevil	101; 103 + 220 or 202 is recommended	(3)	Lab; (lecture + lab are co-reqs; Counts as comm beyond carolina
425	Human Genetics	Copenhaver & Sekelsky	202 or 103+104+220	(3)	
430/430H	Introduction to Biochemistry	Hogan; Erie	101, chem262/262H	(3)	Crosslisted w/ chem 430
454	Evolutionary Genetics	Johri	201&202 or 103&104	(3)	QBiol
537	Biotechnology and Synthetic Biology	Reed	202 or 103+104+220	(3)	
621	Principles of Genetic Analysis I	Copenhaver & Sekelsky	202 or 220	(3)	Crosslisted with gnet 621
639	Seminar in Plant Molecular and Cell Biology	Kieber	permission of the instructor	(1)	
680	Genome Editing Technologies	Nimchuk	permission of the instructor		

## Physiology, Neurobiology, Microbiology, and Disease

Number	Course	Instructors	Prerequisites	Credit hours	Comments
252	Human Anatomy and Physiology	Johnson; Shemer; Zwemer	101/L	(3)	
252L	Human Anatomy and Physiology Lab	Johnson	101L, co-req 252	(1)	Lab
290	Frontiers of Fermentation	C. Jones	103+104	(3)	
290L	Frontiers of Fermentation Lab	C. Jones	Co-req 290		Lab
422	Microbiology	Burch & McCoy	202 or 103+104+220	(3)	Counts as organismal when 422/ L are completed
422L	Microbiology Laboratory	Burch & McCoy	Pre- or co- 422	(1)	
449	Introduction to Immunology	Garland	205 or 103+104+240	(3)	
450	Neurobiology	Chen	205 or 103+104+240	(3)	
490	Neuro-engineering	Yang	103+104 (for new curriculum students)	(3)	
523	Sex Differences in Human Disease	Conlon	(202 or 205) or 103+104	(3)	
620	Bacterial Genetics	Matthysse	202 or 103+104+220/mcro251 /bio 204 or permission of the instructor	(3)	
590L-402	Bacterial Genetics Lab	Matthysse	Pre or co-req with 620		Counts as a lab if taken with 620

## Quantitative Biology

Number	Course	Instructors	Prerequisites	Credit hours	Comments
431	Biological Physics	Hill	Phys 118, 119	(3)	QBiol; Crosslisted w/ phys 405
454	Evolutionary Genetics	Johri	201&202 or 103&104	(3)	QBiol
525	Analysis & Interpretation of Sequence-Based Functional Genomics	Furey	202 or 103+104+220; comp; stor. Corequisite 525L	(3)	QBiol
525L	Analysis & Interpretation of Sequence-Based Functional Genomics Lab	Furey	Corequisite 525	(1)	QBiol Lab
542	Light Microscopy	P. Maddox & Prunet	205 or 103+104+240	(3)	QBiol
553	Mathematical & Computational Models in Biology	Lerch & Servedio	201&202 or 103&104; math231; math232/stor155/stor120; Co-req 553L	(3)	QBiol lab; Crosslisted with Math 553
553L	Mathematical Biology Lab	Lerch & Servedio	Co-requisite 553	(1)	Crosslisted with math 553L
562	Statistics for Environmental Scientists	Umbanhowar	Stor 155	(4)	QBiol lab

In addition to the Q-biol classes mentioned above, there are three other classes with temporary numbers- 290H, 290/L, 490 that might be considered later as Qbiol electives. This is still under discussion and has not been confirmed. The classes are highlighted in blue and can be found in their relevant field above.

## 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	Burmeister	201 or 202; Permission of the instructor. For majors only	(3)	Does not count for the major. Counts as EE
295	Educational and Social Research in Biology	TBA		(1-3)	Does not count towards the major
395/495	Undergraduate Research	Faculty members	201 or 202; Permission of the instructor. For majors only. New curriculum: core class (e.g. 220).	(1-3)	Counts as EE or Reseach & discovery.
395H	Undergraduate Research (Honors)	Burmeister	201 or 202 and GPA 3.0 or higher; Permission of the instructor. New curriculum: core class (e.g. 220).	(1-3)	Counts as EE or Reseach & discovery.
409L	Printmaking and Biology	Goldstein & Grabowski	Co-req with arts409H; a 200-level course in Biol or in Studio Art; permission of instructor	(1)	Does not count for the major. Counts as EE
692H	Senior Honors Thesis	Nevil	395; Permission of the instructor; candidates for degrees with Honors. Cumulative and biology GPA = 3.3 or above.	(3)	Seniors majors only

