

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

Please note that this list does NOT replace Connect Carolina.

600-level courses are mainly geared towards graduate students and are open to exceptionally advanced undergraduates, with a special permission from the instructor. Highlighted courses are cross-listed classes that are controlled by other departments.

EE= Experiential Education requirement      Organismal= Organismal structure and diversity requirement

### Introduction and Core Courses the new curriculum (students who entered **in/after** Fall 22)

Number	Course	Professors	Prerequisites	Credit hours	Comments
53	Biotechnology: GMO to the Sequence of the Human Genome	J. Downen	None	(3)	FYS. Does not count for the major
101	Principles of Biology	Jordan; Jordan	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	101	(3)	Fundamental class in the new curriculum
104	Biodiversity	Jordan; Deconinck	101	(3)	Fundamental class in the new curriculum
104- FYL	Biodiversity	Evans	101	(3)	Fundamental class in the new curriculum
105L	Biological Research Skills	Hastie	101/L	(1)	Fundamental class in the new curriculum
118	Pursuing Health Professions	Garland	None	(1)	For all pre-health students. Does not count for the major
220	Molecular Genetics	Zwemer; Zwemer	103	(3)	Core class in the new curriculum
220H	Molecular Genetics Honors	Bloom	103	(3)	Core class in the new curriculum
240	Cell Biology	Garland	103	(3)	Core class in the new curriculum
240H	Cell Biology Honors	Goldstein & A. Maddox	103	(3)	Core class in the new curriculum

## Introductory and Core Courses for the old curriculum (students who entered **before** Fall 22)

Number	Course	Professors	Prerequisites	Credit hours	Comments
101	Principles of Biology	Jordan; Jordan	None	(3)	Gateway course
101L	Introductory Biology Lab	Stegenga	None	(1)	Gateway course
102L	Introductory Biology Lab Research	Stegenga	None	(1)	Gateway course
118	Pursuing Health Professions	Garland	None	(1)	For all pre-health students. Does not count for the major
201	Ecology and Evolution	Evans & Burch	101+ chem 101 or 102 (Grade ≥ C)	(4)	
202	Molecular Biology and Genetics	Zwemer	101+ chem 101 or 102 (Grade ≥ C)	(4)	

## Human Physiology, Microbiology, and Disease

Number	Course	Professors	Prerequisites	Credit hours	Comments
243	The Cellular Agriculture Revolution	Phanstiel	Permission of the instructor	(3)	Crosslisted as CBPH 243
252	Human Anatomy & Physiology	Ott; Ott; Shemer	101/L	(3)	
252L	Human Anatomy & Physiology Lab	Johnson	101L, co-req 252	(1)	
253	Advanced Human Anatomy & Physiology	Hastie; Johnson	252; co-req 253L	(3)	Does not count for the major
253L	Advanced Human A&P Lab	Johnson	252L; co-req 253	(1)	Does not count for the major
402	Infectious Disease in the Developing World	Peifer	205 or (103+104+220+240)		
445	Cancer Biology	Shemer	205 or (103+104+220+240)	(3)	
481	Epidemic Diseases in History	Matthyse; Matthyse	422/mcro 251	(3)	
523	Sex Differences in Human Disease	Conlon	202 or (103+104)	(3)	
546	Biology of Aging	Ahmed	205 or (103+104+240)	(3)	
547	Synaptic Plasticity: Analysis of Primary Literature	Hige	202 or 103+104+(220 or 240)	(3)	

## Ecology, Botany, and Evolution

Number	Course	Professors	Prerequisites	Credit hours	Comments
255H	The Evolution of Extraordinary Adaptations Honors	Willett	Pre- 101 (B or higher); Coreq 255L	(3)	Counts as EE (or Research in the new IDEA curriculum)
436H	Plant Genetics, Development, and Biotechnology Honors	Reed	202 or 271 or (103+104+220)	(3)	
455	Behavioral Neuroscience	Burmeister	205 or (103+104+240)	(3)	
471	Evolutionary Mechanisms	Kingsolver & D. Pfennig	201 + 202 or (103+104); corequisite 471L	(3)	Counts as organismal when 471 & 471L are completed
471L	Evolutionary Mechanisms- Lab	Kingsolver & D. Pfennig	corequisite 471	(1)	
490-001	Advanced Topics in Biology: Major Events in the Evolution of Life	Gensel	BIOL 101 or permission of the instructor	(3)	
490-002	Virtual Ecology	Riddel	201 or (103+104)	(3)	Qbio elective
568	Disease Ecology and Evolution	Mitchell	math 231 + 201 or (103+104+260)	(3)	
669	Seminar in Ecology- Plant Conservation Garden	Waitt		(2)	
680	Speciation	Matute	454 or permission from the instructor	(1)	

## Research, Teaching, and Professional Development

Number	Course	Professors	Prerequisites	Credit hours	Comments
291/292	Teaching Apprentice/Teaching Assistant in Biology	Faculty members	GPA $\geq$ 3.0 Application required	(1)	Does not count for the major. Counts as EE and as HI.
293	Internship in Biology	Rogers	201 or 202 or 103 or 104 Application required	(3)	Does not count for the major. Counts as EE and HI.
295	Educational and Social Research in Biology	Ott & Hastie	101 Application required	(1-3)	Does not count for the major. Counts as Research in the IDEAs curriculum.
395/495 and 395H	Undergraduate Research in Biology	Faculty members	201 or 202 or a core biol (220/240/250/260/or organismal). Application required	(1-3)	Majors only. Old curriculum: Counts as a lab if taken for 6 hr. or 3hr +biol 692H; Counts as EE; New curriculum- counts as a lab and Research.
635	Careers in Biotechnology	Salmeron		(1)	Does not count for the major
692H	Senior Honors Thesis in Biology	A. Maddox	395; Application required	(3)	Senior bio majors only.

## Genetics, Molecular, and Cellular Biology

Number	Course	Professors	Prerequisites	Credit hours	Comments
430	Introduction to Biochemistry	B. Hogan	101, chem262 or 262H	(3)	Cross-listed as chem 430
436H	Plant Genetics, Development, and Biotechnology Honors	Reed	202 or 271 or (103+104+220)	(3)	
439	Introduction to Signal Transduction	Kieber	205 or (103+104+240)	(3)	
440	Stem Cell Biology	Gordon	202 or (103+104)+(220 or 240)	(3)	
445	Cancer Biology	Shemer	205 or (103+104+220+240)	(3)	
447	Cell Biology: Beyond Core Basics	Prunet & P. Maddox	205 (C or better) or (103+104+240). Co-requisite 447L	(1)	Counts as lab.
447L	Cell Biology: Beyond Core Basics Lab	Prunet & P. Maddox	Co-requisite 447	(3)	Counts as lab.
625	Seminar in Genetics: Meiosis, Recombination, and Sex	Jones, Copenhaver & Sekelsky	Permission of the instructors	(2)	Cross-listed as gnet 625
631	Advanced Molecular Biology		Permission of the instructors	(3)	Cross-listed as bioc 631
680	Modern approach in zebrafish to study human biology and disease	Shiau		(1)	

## Quantitative Biology

Number	Course	Professors	Prerequisites	Credit hours	Comments
214H	Mathematics of Evo. Processes	Servedio	101 + Math 231	(3)	QBiol
222	Programming w/ Biol Data	Kehl	101	(3)	Can replace the comp class requirement
490-002	Virtual Ecology	Riddel	201 or (103+104)	(3)	Qbio elective
528	Quantitative personalized genomics	Laederach	202 or (103+104+220), comp 116/110/biol 226 Corequisite 528L	(3)	QBiol w/L
528L	Quantitative personalized genomics Lab	Laederach	Corequisite 528	(1)	
534	Mathematical Modeling in the Life Sciences	Griffith	Math 347 + 383	(3)	QBiol; crosslisted as math 564
Comp 555	Bioalgorithms	McMillan	Comp 401, 410; math 231/553/biol 525	(3)	QBiol
562	Statistics for Environmental Sci.	Roberts	103+104 + Stor 120/155	(4)	Lab and QBiol lab; crosslisted as enec562

## Zoology and Animal Physiology

Number	Course	Professors	Prerequisites	Credit hours	Comments
278	Animal Behavior	C. Lohmann	101 and 101L	(3)	Counts as organismal, when 278 & 278L are completed
278L	Animal Behavior lab	C. Lohmann	Pre- or co- 278	(1)	
350	Oceanography	Teske	None	(3)	Cross-listed as emes 401 or envr 417
451	Comparative Physiology	Hedrick	101/L; phys114/118; phys115/119	(3)	Counts as organismal when 451 & 451L are completed
451L	Comparative Physiology lab	Hedrick	Pre- or co- 451	(1)	
455	Behavioral Neuroscience	Burmeister	205 or (103+104+240)	(3)	
457	Marine Biology	Septer			Cross-listed as emes 442
476	Avian Biology	Hurlbert & Sockman	103+104	(3)	Counts as organismal when 476 & 476L are completed
476L	Avian Biology Lab	Hurlbert & Sockman	Pre- or corequisite: 476	(1)	
657	Biological Oceanography	Marchetti	Permission of the instructor	(4)	Does not count as a lab. Cross-listed as emes 507 or envr 520

Schedule subject to change. Please see Connect Carolina for the most recent course info.