

General Biology Track

Choose 15 credit hours from the upper-level electives listed below (9 hours must be BIO courses):

BIO 3xx, BIO 4xx, BIO 5xx, BIO 6xx

Course	Prerequisites	Semesters offered
ANT 332 (3) Human Evolution	ANT 230 or BIO 150	
CHE 226 (3) Analytical Chemistry	CHE 107 and CHE 113	Fall/Spring
CHE 232 (3) Organic Chemistry II*	CHE 230 with grade C or above.	Fall/Summer/Spring
CHE 233 (1) Organic Chemistry Lab II	CHE 231; prereq or concur: CHE 232.	Fall/Summer II/Spring
CHE 440G (3) Introductory Physical Chemistry	PHY 213 or PHY 232; MA 114; CHE 226 or MA 213	Fall
CHE 441 (2) Physical Chemistry Lab	A physical chemistry course at or above the 400 level.	Fall/Spring
CHE 446G (3) Physical Chemistry for Engineers	CHE 107, 113; PHY 232; MA 213; CME 200 or the equivalent.	Fall
CHE 532 (2) Spectrometric Identification of Organic Molecules	CHE 231 and CHE 232	Fall
CHE 533 (2) Advanced Organic Chemistry Laboratory	CHE 532	Fall/Spring
CHE 550 (3) Biological Chemistry I	CHE 232	Fall
CHE 552 (3) Biological Chemistry II	CHE 232	Spring
CHE 558 (3) Hormone Receptors and Cell Signals	BIO 315 or equivalent, BCH 401G or equivalent, CHE 550 or 552 or equivalent, or consent of instructor.	
CHE 565 (3) Environmental Chemistry	Two semesters of general college chemistry are required. Courses in analytical and physical chemistry are recommended, but are not required.	Spring
EES 401G (3) Invertebrate Paleobiology and Evolution	EES 102/112	Sometimes Spring
PSY 459 (3) Neuropharmacology: Drugs and Behavior	PSY 215 and PSY 312, or BIO 148 or equivalent.	Fall/Spring
STA 570 (4) Basic Statistical Analysis	MA 109 or equiv. for graduate students; undergraduates must have consent of instructor.	Fall/Spring
STA 580 (2) Biostatistics I	MA 109 or equivalent.	Fall/Spring
Other STA courses may be accepted at the discretion of your advisor.		

ABT/AGR/ASC/ENT 460 (3) Introduction to Molecular Genetics	ABT/ENT 360 or BIO 304 or consent of instructor.	Spring
ASC 364 (4) Reproductive Physiology of Animals	ASC 101 and BIO 152. Primary registration access limited to College of Agriculture, Food and Environment majors and remaining seats open during secondary registration.	Spring
ASC 378 (4) Animal Nutrition and Feeding	ASC 101 and CHE 230 or CHE 236.	Fall
ENT 310 (3) Insect Pests of Field Crops	None listed.	Fall
ENT 320 (3) Horticultural Entomology	None listed.	Fall
ENT/FOR 502 (3) Forest Entomology	A minimum of 3 credits of basic biology (BIO 103 or BIO 148 or equivalent) or consent of instructor.	Fall
ENT 561 (3) Insects Affecting Human and Animal Health	3 credits of basic biology (BIO 103 or BIO 148 or equivalent) or permission of instructor.	Fall
ENT 564 (4) Insect Taxonomy	Consent of instructor.	Every other Fall
ENT 568 (3) Insect Behavior	One year of biology.	Every other Spring
FOR 340 (4) Forest Ecology	BIO 103 or BIO 150	Fall
FOR 370 (4) Wildlife Biology and Management	None listed.	Fall
FOR 435 (3) Conservation Biology	Introductory biology course or consent of instructor.	Fall
FOR 530 (3) Freshwater Ecology	Upper level course in biology, field ecology, wildlife management or consent of the instructor.	Fall
FOR 510 (4) Herpetology	All students enrolled in FOR 510 should have taken at least one college-level Biology course.	Spring
FSC 530 (5) Food Microbiology	BIO 208 and BIO 209 or equivalent.	Fall
NRE 420G (4) Taxonomy of Vascular Plants	Junior standing, BIO 148 and BIO 152 or one course in introductory botany or consent of Instructor.	Spring
NRE/PLS 450G (3) Biogeochemistry	CHE 105, 107, 111, 113.	
PLS 320 (4) Woody Horticultural Plants	PLS 220	Fall
PLS 330 (2) Herbaceous Horticultural Plants I	PLS 220	
PLS 332 (2) Herbaceous Horticultural Plants II	PLS 220	
PLS 366 (4) Fundamentals of Plant Sciences	CHE 105	Fall/Spring

PLS 502 (3) Ecology of Economics Plants	None listed.	Every other Fall
PLS 566 (3) Soil Microbiology	PLS 366 or an introductory microbiology course or consent of instructor.	Spring
PLS 567 (1) Methods in Soil Microbiology	PLS 366 or introductory microbiology course.	Spring
PPA 400G (3) Principles of Plant Pathology	BIO 148 and BIO 152, or BIO/PLS 210, or consent of instructor.	Fall
ANA 410G (3) Neurobiology of Brain and Spinal Cord Disorders	BIO 302 or PSY 312 or consent of course directors.	Fall/Spring
ANA 442 (3) Molecular and Cellular Neurobiology	BIO 152 or an equivalent; BIO 302 or PSY 312, or consent of course director.	Spring
ANA 511 (5) Introduction to Human Anatomy	Some background in Biology, including one or more such courses as Biology, Zoology, Botany, Comparative Anatomy or Embryology, and enrollment in the College of Medicine or a graduate program in the bio-medical sciences. In addition, students from graduate programs outside of anatomy must obtain the consent of the course director before registration.	Fall
ANA 512 (4) Microscopy and Ultrastructure	Some background in Biology, including one or more such courses as Biology, Zoology, Botany, Histological techniques, Comparative Anatomy or Embryology, and enrollment in the College of Medicine or a graduate program in the bio-medical sciences. In addition, students from graduate programs outside of anatomy must obtain the consent of the course director before registration.	Fall
ANA 516 (3) Selected Topics in Advanced Neuroscience	ANA 511, 512, 513; PGY 511; and enrollment in the College of Medicine or a graduate program in the bio-medical sciences. In addition, students from graduate programs outside of anatomy must obtain the consent of the course director before registration.	Fall
Some other anatomy courses are acceptable, but they are usually restricted to professional students.		
BCH 401G (3) Fundamentals of Biochemistry	CHE 107, CHE 236 and BIO 152 or equivalent.	Fall/Spring/ sometimes Summer
MI/BIO 494G (3) Immunobiology	BCH 401G (may be taken concurrently) and BIO 208 or BIO 308 or consent of instructor.	Fall/Spring
MI 595 (2) Immunobiology Laboratory	BIO 494G or concurrently; or consent of instructor.	

MI/PAT 598 (3) Clinical Microbiology	BIO 208 and 209, BIO 476G recommended, CHE 230 or 236, or consent of instructor.	Spring
PGY 412G (4) Principles of Human Physiology Lecture	One year biology or PGY 206	Fall/Spring/Summer
PGY 412G is acceptable as an elective for upper level biology credit ONLY IF a student DOES NOT complete BIO 350. It DOES NOT substitute for BIO 350 or BIO 430G.		
PGY 431 (3) Introduction to Neuroendocrinology	PGY 206, BIO 302, or BIO 350 or instructor approval.	Fall
PGY 417 (2) Genomics and Epigenetics	A course in Cell Biology or Molecular Biology.	Spring
PGY 502 (5) Systems, Cellular, and Molecular Physiology	An introductory physiology course (for example PGY 206), and an understanding of fundamental undergraduate-level chemical and physical concepts is recommended but not required.	Fall
PGY 512 (3) Evolutionary Medicine	BIO 150-153 or equivalent introductory biology sequence, BIO 315 or equivalent, and an introductory physiology course (PGY 206, BIO 350, or PGY 412G).	Fall/Spring
PGY 560 (1) Pathophysiology: Integrative Study in Physiology and Medicine	PGY 412G, PGY 502 or consent of instructor	Spring
TOX 509 (2) Environmental and Regulatory Toxicology	BCH 501 or BCH 401G or other equivalent or consent of instructor.	Fall

*for BA students only