BIOLOGY 7-12, B.S.

The program outline and graduation requirements are listed below. In addition, free electives are selected to reach 120 credits overall and a 2.7 cumulative GPA is required for graduation.

The department website provides an overview of the program, admission requirements (when applicable), faculty biographies, learning outcomes, and careers: https://www.southerncst.edu/academics/biology/programs.

This program is an education preparation program. Please consult the College of Education page for more information about the college admission requirements.

GENERAL EDUCATION REQUIREMENTS

All bachelor’s degree programs include liberal education (LEP) and writing (W) course requirements. Detailed information on these requirements is published in this section of the catalog: https://catalog.southerncst.edu/undergraduate/general-information/lep.html.

Writing courses are not additional course requirements, course sections that meet this requirement are designated with a ‘W’ on the class schedule. Courses in the major and/or cognate may also be used to satisfy LEP requirements where noted below (*).

MAJOR REQUIREMENTS (62 Credits)

Biology Requirements (35 - 36 Credits)
BIO 102 – Biology I (‘C’ or better)
BIO 103 – Biology II (‘C’ or better) (T2LE)*
BIO 220 – Genetics (‘C’ or better)

Content Areas - GPA of 2.3 required

ANATOMY/PHYSIOLOGY
One Entry Level (4 credits):
BIO 200 - Human Anatomy and Physiology I
BIO 230 – Plant Anatomy and Morphology
BIO 231 – Comparative Vertebrate Anatomy
BIO 235 – Histology
BIO 250 – Plant Diversity

One Upper Level (4 credits):
BIO 301 – Physiology
BIO 401 – Comparative Physiology
BIO 420 – Plant Physiology
BIO 454 – Brain: Anatomy and Transmission

BIODIVERSITY/ECOLOGY/ORGANISMAL BIOLOGY
One Entry Level (3-4 credits):
BIO 202 – Ecology
BIO 210 – Environmental Biology and Conservation
BIO 215 - Animal Behavior
BIO 228 – Vertebrate Zoology
BIO 229 – Invertebrate Zoology

One Upper Level (3-4 credits):
BIO 327 - Field Natural History
BIO 334 – Microbial Ecology
BIO 337 – Medically Important Arthropods
BIO 399 - Mammalian Biology
BIO 427 – Entomology
BIO 429 – Limnology
BIO 430 – Marine Ecology
BIO 432 – Mycology
BIO 438 – Aquatic Entomology
BIO 440 – Parasitic Infections
BIO 460 – Paleontology

CELL/MOLECULAR
One Entry Level (3-4 credits):
BIO 205 – Forensic Biology
BIO 233 – Introductory Microbiology
BIO 236 - Cell Biology
BIO 240 – Human Heredity
BIO 296 - Genomics I

One Upper Level (4 credits):
BIO 325 - Immunology and Infection
BIO 335 – Pathogenic Microbiology
BIO 360 – Plant Growth and Development
BIO 386 - Genomics II
BIO 393 - Bioinformatics
BIO 435 – Developmental Biology
BIO 436 – Molecular Biology
BIO 451 – Tissue Culture
BIO 466 – Advanced Molecular and Cell Biology
BIO 467 – Laboratory Course in Biotechnology

One Additional Upper Level Course (BIO 201 also permitted):
Select one additional upper level course from any in the three upper level content areas above
or select one course from those listed below, all three of which require special departmental permission.
BIO 497 - In-Service Training in Biology
BIO 495 - Senior Thesis
BIO 499 - Independent Study and Research
Education Requirements (27 Credits Required)
EDU 316 - Child Development and Psychology for Educators (‘C’ or better)
EDU 413 – Secondary Education (‘C’ or better)
EDU 471 – Supporting English Learners for School Success (‘C’ or better)
RDG 470 – Literacy in the Content Areas (‘C’ or better)
SCE 490 – Science (Secondary School) (‘C’ or better)
SCE 494 – Student Teaching (Science)
SCE 496 – Student Teaching Seminar (Science)
SED 482 – Teaching Exceptional Students in the Secondary Education Classroom (‘C’ or better)

Non-Course Requirements:
Module 1: Behavioral Difficulties (Social and Emotional Development)
Module 2: Dyslexia

Cognate Requirements (29 Credits)

CHE 120 – General Chemistry I (T2PR)*
CHE 121 – General Chemistry II
EDU 200 – Teachers, Schools and Societies (‘C’ or better) (T2CC)*
HIS 110 or HIS 111 – United States History I or II (T2AE)*
MAT 122 or MAT 150 – Precalculus or Calculus I (T1QR)*
SHE 203 – School Health (‘C’ or better) (T2MB)*

Select one from:
• PHY 200 – General Physics I
  • and PHY 201 – General Physics II
• PHY 230 – Physics for Scientists and Engineers I
  • and PHY 231 – Physics for Scientists and Engineers II