2025/2026 Advising Guide for Biology Majors and Minors

DEPARTMENT OF Biology

This guide provides students with information regarding the specific degree requirements associated with completion of the BS and BA degrees in Biology, as well as the minor in Biology. Official degree requirements, including core course requirements, may be found in the TCU Undergraduate Catalog.

Biology BS Requirements

Earning a BS degree at TCU requires the successful completion of **120 total hours**. Of these hours, a minimum of 36 credit hours of Biology course and 26-28 credit hours of associated courses are required.

Required Biology courses

BIOL 10503 Unity and Cells
BIOL 10513 Diversity and Organisms
BIOL 10523 Introduction to Biological Investigation
BIOL 30403 Ecology & the Environment
BIOL 30603 Cellular, Molecular & Developmental Biology
BIOL 41000 Senior Assessment (taken in the last semester)

In addition to the courses above, **21 additional upper-level hours in Biology** are required.

- At least three courses used to meet the 21-hour requirement must include a laboratory component.
- No more than 6 hours of teaching courses (BIOL 40820 or 40830) may count toward the upper-level 21 hours.
- No more than 6 hours of research courses (BIOL 40900, 40903, or 40933) may count toward the upper-level 21 hours. One of these courses may count as a laboratory course.
- No more than 8 hours of any combination of the teaching and research courses may count toward the upper-level 21 hours.
- The combination of BIOL 20204 and 20214 (A&P series) count toward the major as 4 hours and one laboratory course.

Associated Requirements

CHEM 10113 General Chemistry I
CHEM 10123 General Chemistry II
CHEM 10122 General Chemistry II Lab
or 20123 Quantitative Analysis
MATH 10043 Elementary Statistics
or 10524 Calculus I
CHEM 30123 Organic Chemistry I
CHEM 30121 Organic Chemistry I Laboratory
CHEM 30133 Organic Chemistry II
PHYS 10154 General Physics I w/ Laboratory
PHYS 10164 General Physics II w/ Laboratory

Biology BA Requirements

Earning a BA degree at TCU requires the successful completion of **120 total hours**. Of these hours, a minimum of 27 credit hours of Biology are required. Student pursuing the BA degree must have a **minor** and meet a **foreign language** requirement (competency in a foreign language equivalent to the completion of a 4th semester (Intermediate II) course.

Required Biology courses

BIOL 10503 Unity and Cells
BIOL 10513 Diversity and Organisms
BIOL 10523 Introduction to Biological Investigation
BIOL 30403 Ecology & the Environment
BIOL 30603 Cellular, Molecular & Developmental Biology
BIOL 41000 Senior Assessment (taken in the last semester)

In addition to the courses above, **12 additional upper-level hours in Biology** are required.

- At least two courses used to meet the 12-hour requirement must include a laboratory component.
- A maximum of 3 hours for any combination of teaching and research courses (BIOL 40820, 40830, 40900, 40903, 40933) are permitted within the 12 hours. These courses may not be used to fulfill the upper-level laboratory requirement.
- The combination of BIOL 20204 and 20214 (A&P series) count toward the major as 4 hours and one laboratory course.

Biology Minor

Earning a Biology minor at TCU requires the successful completion of **21 hours** in Biology.

Recommended Biology courses

BIOL 10503 Unity and Cells
BIOL 10513 Diversity and Organisms
BIOL 10523 Introduction to Biological Investigation
BIOL 30403 Ecology & the Environment
or 30603 Cellular, Molecular & Developmental Biology

Of the 21 hours, a minimum of 9 hours of upper-division (30000 or above) courses are required.

- A maximum of 3 of these upper division hours may come from a combination of 1-hour seminar courses in biology.
- A maximum of 3 hours for any combination of teaching and research courses (BIOL 40820, 40830, 40900, 40903, 40933) are permitted within the 12 hours.

Special considerations for all students

Pass/No Credit: Two courses may be taken P/NC. No course applied toward the major/minor or associated requirements may be P/NC.
Transfer credits: Up to four courses may be transferred after enrolling at TCU.
GPA: A cumulative 2.0 GPA at TCU and a cumulative 2.0 GPA in biology courses is required for graduation.
Upper Division: At least 42 hours of coursework at 30000 level or above must be taken at TCU.
Research: BIOL 40911 may be required for students conducting research with some faculty, but does not count toward the major

Undergraduate Biology Course Offerings

Fall 2025
Scheduled Course Offerings

Required Courses (usually taken in years 1 & 2)
Unity of Life: Molecules to Cells (10503)
Diversity of Life: Organisms to Ecosystems (10513)
Introduction to Biological Investigation (10523)
Ecology and the Environment (30403)
Cellular, Molecular & Developmental Biol (30603)

Elective Courses (usually taken in years 3 & 4)

Lecture Courses
Biochemistry I (50133)
Endocrinology (40710)
Evolution, Disease & Medicine (40800)
Examining Eugenics, Race & Modern Biol (40183)
Fundamentals of Biochemistry (40513)
Genetics (40123)
Introductory Neuroscience (30463)
Mammalian Physiology (40403)

Lecture/Lab Courses
Advanced Ecology (40720)
Human Anatomy (30414)
Immunology (40254)
Invertebrate Biology (30104)
Microbiology (30304)
Genomics (40723)

Lab Courses (1-2 credit hours)
Biotechnology Lab Techniques (40131)

Seminar Courses
Neurobiology of Aging (50401)
Oncology and Community Health
Topics in Medicine (40110, 0.5 hrs)
- The Practice of Medicine

Summer 2025:
Global Perspectives in Health (40703; Study Abroad in Italy)

Spring 2026
Anticipated Course Offerings

Required Courses (usually taken in years 1 & 2)
Unity of Life: Molecules to Cells (10503)
Diversity of Life: Organisms to Ecosystems (10513)
Introduction to Biological Investigation (10523)
Cellular, Molecular & Developmental Biol (30603)

Elective Courses (usually taken in years 3 & 4)

Lecture Courses
Biochemistry II (50143)
Functional Neuroanatomy (50463)
Fundamentals of Biochemistry (40513)
Genetics (40123)
Human Parasitology (30803)
Mammalian Physiology (40403)
Molecular Basis of Human Disease (40133)

Lecture/Lab Courses
Avian Biology (40163)
Biostatistics (50123)
Developmental Biology (40224)
Human Anatomy (30414)
Histology (40203)
Immunology (40254)
Introduction to Marine Science (30324)
Microbiology (30304)

Lab Courses (1-2 credit hours)
Biochemistry Lab (W) (50502)
Biotechnology Lab Techniques (40131)

Seminar Courses
Current Research in Biology (40001)
Neurobiology of Aging (50401)
Topics in Medicine (40110, 0.5 hrs)
- Overview of Healthcare Careers I/II
- Building a Resilient Career I/II
- Becoming a Great Applicant to Professional School

Special Problems/Projects Courses *(both semesters; 1-3 credit hours)*
Biological Research & Writing (WEM) (40903)
Senior Honors Research (WEM) (40933)
Discussions in Biological Research (40911)
Independent Research (40900)
Teaching of Introductory Level Biology (40820)
Teaching of Advanced Biology (40830)

Course offerings are subject to change; students are responsible for consulting the official course schedule to confirm the availability of courses