



LOUISE DILWORTH DAVIS
COLLEGE of
SCIENCE & ENGINEERING

Department of Biology

2027 Advising Guide for the Biomedical Sciences BS Degree

This guide provides students with information regarding the specific degree requirements associated with completion of the Biomedical Sciences BS degree. Official degree requirements, including core course requirements, may be found in the TCU Undergraduate Catalog.

Program Description: The Biomedical Science BS program provides students with the academic foundation and skills essential for future leaders in healthcare and biomedical research. Designed specifically for students aspiring to enter health professions programs (e.g., medical school, dental school, veterinary schools, etc.) or graduate biomedical research programs, the rigorous course curriculum aligns with professional and graduate school requirements and prepares students for health professions entrance exams (e.g., MCAT, DAT, etc.).

The Biomedical Sciences BS degree at TCU requires the successful completion of **120 total hours**. Of these hours, a minimum of 36 credit hours in Biology and 33-36 credit hours of associated courses are required.

Biomedical Sciences BS Degree Requirements

Required Biology Courses

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

In addition to the courses above, **24 additional upper-division hours in Biology** are required including:

- 1 credit hour selected from:

BIOL 40110 Topics in Medicine	BIOL 40101 Current Research in Biology Seminar
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- A minimum of 3 hours selected from:

BIOL 40123 Genetics	BIOL 40403 Human Physiology	BIOL 40513 Fun. Biochemistry
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- A minimum of 12 hours of coursework selected from:

BIOL 30304 Microbiology	BIOL 30414 Human Anatomy	BIOL 30463 Intro Neuroscience
BIOL 30803 Human Parasitology	BIOL 40123 Genetics	BIOL 40131 Mol. Biotech. Lab Tech.
BIOL 40133 Mol. Basis Human Disease	BIOL 40203 Histology	BIOL 40224 Developmental Biology
BIOL 40254 Immunology	BIOL 40273 Genomics	BIOL 40403 Human Physiology
BIOL 40453 Principles of Toxicology	BIOL 40473 Vertebrate Endocrinology	BIOL 40513 Fun. Biochemistry
BIOL 40523 Struct. Biol. Drug Design	BIOL 40603 Virology	BIOL 40703 Global Perspect. in Health
BIOL 50123 Biostatistics	BIOL 50133 Biochemistry I	BIOL 50143 Biochemistry II
BIOL 50463 Functional Neuroanatomy	BIOL 50502 Biochemistry Laboratory	
- At least two courses with a laboratory (LAB) component.
- At least one course designated as literature intensive (LIT).
- A maximum of 6 hours in research courses (BIOL 40900, 40910, 40903, 40933)
- A maximum of 6 hours in teaching of biology courses (BIOL 40820, 40830)

Associated Requirements

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| <ul style="list-style-type: none"> • 8-9 hours General Chemistry CHEM 10113 General Chem I CHEM 10122 General Chem II Lab CHEM 10123 General Chem II or 20123 Quant Analysis • 3 hours Statistics MATH 10043 | <ul style="list-style-type: none"> • 7 hours Organic Chemistry CHEM 30123 Organic Chem I CHEM 30121 Organic Chem I Lab CHEM 30133 Organic Chem II • 1-3 hours Professional Development BIOL 40701 Profess. Dev. in Biol or SCIE 30613 Pre-Health Prof. Dev. | <ul style="list-style-type: none"> • 8 hours General Physics PHYS 10154 PHYS 10164 • 6 hours SOCI, ANTH, and/or PSYC |
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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: BIOL 10503 may not be transferred to TCU. BIOL 10513, 10523, 30403, and 30603 may not be transferred to TCU after enrolling at TCU. 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 36 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





Schedule of Biology Course Offerings for the Biomedical Sciences BS Degree

Spring 2027 Scheduled Course Offerings

Fall 2027 Anticipated Course Offerings

Year 1	Success in Biology and Pre Health (10101) Biology Recitation (10970) Unity of Life: Molecules to Cells (10503) Diversity of Life: Organisms to Ecosystems (10513) Introduction to Biological Investigation (10523)	Success in Biology and Pre Health (10101) Biology Recitation (10970) Unity of Life: Molecules to Cells (10503) Diversity of Life: Organisms to Ecosystems (10513) Introduction to Biological Investigation (10523)
Year 2	Cellular, Molecular & Developmental Biol (30603)	Ecology and the Environment (30403) Cellular, Molecular & Developmental Biol (30603)
Years 3 and 4	Lecture Courses Introductory Neuroscience (30463) Hormones and Behavior (30593) Human Parasitology (30803) Genetics (40123) Human Physiology (40403) **SPRING ONLY** Biochemistry II (50143) Functional Neuroanatomy (50463)	Lecture Courses Introductory Neuroscience (30463) Genetics (40123) Fundamentals of Biochemistry (40513) Biochemistry I (50133)
	Lab and/or Literature-Intensive Courses Microbiology (LAB) (30304) Introduction to Marine Science (LIT or LAB) (30324) Human Anatomy (LAB) (30414) Natural History (LAB) (30613) Biology of Cancer (LIT) (40001) Conservation Genetics (LAB) (40153) Histology (LAB) (40203) Developmental Biology (LAB) (40224) Immunology (LIT or LAB) (40254) Structural Biology of Drug Design (LIT and LAB) (40523) Virology (LIT) (40603) Spatial Ecology (LAB) (40720) Biostatistics (LAB) (50123) Biochemistry Lab (LAB, W) (50502) Anthropogenic Disturbance of Wildlife (LIT) (50533)	Lab and/or Literature-Intensive Courses Invertebrate Biology (LAB) (30104) Microbiology (LAB) (30304) Human Anatomy (LAB) (30414) Natural History (LAB) (30613) Biotechnology Lab Techniques (LAB) (40131) Molecular Basis of Human Disease (LIT) (40133) Immunology (LIT) (40254) Biostatistics (LAB) (50123)
	Other Courses Topics in Medicine (40110, 0.5 hrs) - Overview of Healthcare Careers I/II - Building a Resilient Career I/II - Becoming a Great Applicant Senior Assessment (41000; taken in the last semester)	Other Courses Current Research in Biology (40011) Topics in Medicine (40110, 0.5 hrs) - The Practice of Medicine - Introduction to Healthcare Professional Development in Biology (40701) Oncology and Community Health (50901) Senior Assessment (41000; taken in the last semester)
	Summer 2027: Global Perspectives in Health (SA) (40703)	Special Problems/Projects Courses (both semesters; 1-3 credit hours) Teaching of Introductory Level Biology (40820) Teaching of Advanced Biology (40830) Biological Research & Writing (W, LIT) (40903) Intro to Independent Research (LAB) (40900) Advanced Independent Research (40910) Discussions in Biological Research (40911) Senior Honors Research (W, LIT) (40933)

LAB = Upper-level Lab Course
 LIT = Literature-Intensive Course

W = Writing Emphasis Course
 SA = Study Abroad Course

**Course offerings are subject to change;
 students are to consult the official course
 schedule to confirm course availability**