

# Biology - Biomedical Science Emphasis, BS

## Program Description

The B.S. Biomedical Science emphasis is designed for students seeking a career in the medical field. This includes students looking to apply to medical school (M.D. & D.O.), dental school, pharmacy school, podiatry school, optometry school, and other health-related, professional schools.

## Program Curriculum

120 credits

### Utah Tech General Education Requirements

All Utah Tech General Education requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to Utah Tech's minimum General Education standards in American Institutions, English, and Mathematics.

Code	Title	Hours
General Education Core Requirements ( <a href="https://catalog.utahtech.edu/programs/generaleducation/#gerequirementstext">catalog.utahtech.edu/programs/generaleducation/#gerequirementstext</a> )		
English		3-7
Mathematics		3-5
American Institutions		3-6
Life Sciences		3-10
Physical Sciences		3-5
Fine Arts		3
Literature/Humanities		3
Social & Behavioral Sciences		3
Exploration		3-5

Code	Title	Hours
<b>Biology Core Requirements</b>		
BIOL 1610 & BIOL 1615	Principles of Biology I (LS) and Principles of Biology I Lab (LAB)	5
BIOL 1620 & BIOL 1625	Principles of Biology II and Principles of Biology II Lab	5
BIOL 3010	Evolution	3
BIOL 3030	Principles of Genetics	3
BIOL 3040	General Ecology	3
<b>Other Degree Requirements</b>		
CHEM 1210 & CHEM 1215	Principles of Chemistry I (PS) and Principles of Chemistry I Lab (LAB)	5
CHEM 1220 & CHEM 1225	Principles of Chemistry II and Principles of Chemistry II Lab	5
CHEM 2310 & CHEM 2315	Organic Chemistry I and Organic Chemistry I Lab	5
CHEM 2320 & CHEM 2325	Organic Chemistry II and Organic Chemistry II Lab	5
CHEM 3510 & CHEM 3515	Biochemistry I and Biochemistry I Lab	4
Complete one (1) of the following series of courses:		
PHYS 2010 & PHYS 2015 & PHYS 2020 & PHYS 2025	College Physics I (PS) and College Physics I Lab (LAB) and College Physics II and College Physics II Lab	10

or PHYS 2210 & PHYS 2215 & PHYS 2220 & PHYS 2225	Physics/Scientists Engineers I (PS) and Physics/Scientists Engineers I Lab (LAB) and Physics/Scientists EngineersII and Physics/Scientists Engineers II Lab	
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**Additional Biology Requirements**

BIOL 2320 & BIOL 2325	Human Anatomy and Human Anatomy Lab	5
BIOL 3420	Advanced Human Physiology	3
MATH 3060	Statistics for Scientists	3
BIOL 3155	Scientific Method and Experimental Design	1
BIOL 3450 & BIOL 3455 or BIOL 3550 & BIOL 3555	General Microbiology and General Microbiology Lab Eukaryotic Cell Biology and Eukaryotic Cell Biology Lab	4
BIOL 4910	Senior Seminar	1

**Pick one (1) of the following Technical Laboratory Courses**

BTEC 2010	DNA Methods and Analysis	2
BTEC 2020	Protein Purification and Analysis	2
BTEC 2030	Cell Culture Techniques	2
BTEC 2050	Zebrafish Maintenance & Methodology	2
BIOL 2300	Fundamentals of Bioinformatics	2

**Social & Behavioral Sciences****3**

Complete one (1) psychology courses from among the following

PSY 2400	Psychology of Abnormal Behavior	3
PSY 3460	Health Psychology	
PSY 3710	Behavioral Neuroscience	

**Electives**

Complete at least 7 credits of upper-division biology courses not already used to fulfill a degree requirement and pick at least one Technical Laboratory Course. Elective credits must total 15.

BIOL 3000R	Advanced Utah Health Scholars Students (Prerequisite: HLOC 2000 )	
BIOL 3100	Bioethics	
BIOL 3110	Scientific Writing	
BIOL 3120	Science Communication	
BIOL 3140 & BIOL 3145	Comparative Vertebrate Anatomy and Comparative Vertebrate Anatomy Lab	
BIOL 3230R	Cadaver Practicum	
BIOL 3250	Cancer Biology	
BIOL 3360	Developmental Biology	
BIOL 3460	Biology of Infectious Disease	
BIOL 3470	Introduction to Immunology	
BIOL 4300 & BIOL 4305	Molecular Biology and Molecular Biology Laboratory	
BIOL 4440	General Entomology	
BIOL 4930R	Senior Thesis	
CHEM 3520 & CHEM 3525	Biochemistry II and Biochemistry II Lab	
MATH 1210	Calculus I (MA) (Technical Laboratory Courses )	

**Graduation Requirements**

1. Complete a minimum of 120 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits (3000 and above).
3. Complete at least 30 upper-division credits at Utah Tech for institutional residency.
4. Cumulative GPA 2.0 or higher.

5. Grade C- or higher is required in each Program Requirement, Core Discipline Requirement, and Biology Elective Requirement course.
6. Maximum 6 total credits of BIOL 4810R, and/or BIOL 4890R, and/or BIOL 4930R may be used toward Biology requirements.