Biochemistry & Molecular Biology, BS

Program Description

The Biochemistry and Molecular Biology degree is the ideal interdisciplinary science program where chemistry, biology, and health sciences merge into a rapidly growing and high-impact field. The program dives into the chemical processes that allow life to exist, and how those processes are impacted by internal and external stimuli. Lab and research experiences provides students with active learning opportunities to apply complex concepts to experiments with real-world applications.

Program Curriculum

120-121 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.

General Education Core Requirements (catalog.utahtech.edu/programs/generaleducation/#gerequirementstext)

Code	Title	Hours
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

Program Requirements

Code	Title	Hours
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 2600	Laboratory Safety and Practices	1
CHEM 2990R	Chemistry Seminar and Professional Development	1
CHEM 3000 & CHEM 3005	Quantitative Chemical Analysis and Quantitative Chemical Analysis Laboratory	4
CHEM 3060 & CHEM 3065	Physical Chemistry 1 and Physical Chemistry I Lab	5
OR		
CHEM 3070 & CHEM 3075	Physical Chemistry II and Physical Chemistry II Lab	5
CHEM 3100	Inorganic Chemistry	4
CHEM 3300	Instrumental Analysis	4
CHEM 3510 & CHEM 3515	Biochemistry I and Biochemistry I Lab	4

CHEM 3520 & CHEM 3525	Biochemistry II and Biochemistry II Lab	4
CHEM 4910	Chemistry Senior Seminar	1
BIOL 1610 & BIOL 1615	Principles of Biology I (LS) and Principles of Biology I Lab (LAB)	5
BIOL 3030	Principles of Genetics	3
BIOL 3550 & BIOL 3555	Eukaryotic Cell Biology and Eukaryotic Cell Biology Lab	4
BIOL 4300 & BIOL 4305	Molecular Biology and Molecular Biology Laboratory	4
MATH 1210	Calculus I (MA)	4
MATH 1220	Calculus II (MA)	4
Choose one (1) of the following series of courses:		
PHYS 2010 & PHYS 2015	College Physics I (PS) and College Physics I Lab (LAB)	5
PHYS 2020 & PHYS 2025	College Physics II and College Physics II Lab	5
OR		
PHYS 2210 & PHYS 2215	Physics/Scientists Engineers I (PS) and Physics/Scientists Engineers I Lab (LAB)	5
PHYS 2220 & PHYS 2225	Physics/Scientists EngineersII and Physics/Scientists Engineers II Lab	5
Choose one (1) of the following courses:		2
CHEM 4800R	Independent Research	2
BIOL 4810R	Independent Research	2
BIOL 4890R	Life Science Internship	2

Elective Requirements

Code	Title	Hours
Choose three (3) of the following program electives:		
CHEM 4100	Advanced Inorganic Chemistry	3
CHEM 4610	Nutritional Biochemistry	3
BIOL 3010	Evolution	3
BIOL 3250	Cancer Biology	3
BIOL 3360	Developmental Biology	3
BIOL 3420	Advanced Human Physiology	3
BIOL 3450 & BIOL 3455	General Microbiology and General Microbiology Lab	4
BIOL 3470	Introduction to Immunology	3
BIOL 3460	Biology of Infectious Disease	3
BIOL 4400	Pathophysiology	3

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 in each Core Discipline, Research Area, and Elective courses.