

Biotechnology, B.S.

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Requirements

The Bachelor's Degree in Biotechnology will prepare students to enter the field of research, education, pharmaceuticals, forensics, and a variety of other careers. It is also great preparation for advanced degrees in the sciences.

Total Program Credits: 124

General Education Requirements:		39 Credits	
	ENGL 1010	Introduction to Academic Writing	3
or	ENGL 1005	Literacies and Composition Across Context (5)	
	ENGL 2010	Intermediate Writing Academic Writing and Research	3
	MATH 1050	College Algebra	4
or	MATH 1055	College Algebra with Preliminaries (5)	
Complete one of the following:		3	
	HIST 2700	US History to 1877 (3)	
and	HIST 2710	US History since 1877 (3)	
	HIST 1700	American Civilization (3)	
	HIST 1740	US Economic History (3)	
	POLS 1000	American Heritage (3)	
	POLS 1100	American National Government (3)	
Complete the following:			
	PHIL 2050	Ethics and Values	3
	HLTH 1100	Personal Health and Wellness (2)	
or	PES 1097	Fitness for Life	2
Distribution Courses:			
	BIOL 1610	College Biology I	4
	CHEM 1210	Principles of Chemistry I	4
	CHEM 1220	Principles of Chemistry II	4
	Humanities Distribution		3
	Fine Arts Distribution		3
	Social/Behavioral Science		3
Discipline Core Requirements:		73 Credits	
	BIOL 1615	College Biology I Laboratory	1
	BIOL 3400	Cell Biology	3
	BIOL 3500	Genetics	3
	BIOL 3550	Molecular Biology	3
	BIOL 3600	Biological Chemistry	3
	BIOL 4550	Molecular Evolution and Bioinformatics WE	3
	BTEC 494R	Student Seminar WE	2
	Choose any 2 from the following Student must complete at least 2 of the courses listed even if it exceeds the required 3 credit hours		3

	BIOL 3100	Introduction to Data Analysis for Biologists (3)	
	BIOL 3405	Cell Biology Laboratory (1)	
	BIOL 3515	Advanced Genetics Laboratory (1)	
	BIOL 3555	Experiments in Molecular Biology (1)	
	BIOL 3605	Biological Chemistry Lab (1)	
	BTEC 3300	Biomolecular Modeling and Simulations (4)	
	BOT 4700	Plant Tissue Culture WE (4)	
	CHEM 3005	Analytical Chemistry Laboratory (2)	
	ZOOL 4300	Histology (4)	
Choose any from the following:			8
	BTEC 481R	Biotechnology Internship (1)	
	BIOL 489R	Student Research (1)	
	BTEC 489R	Student Research (1)	
	BTEC 499R	Senior Thesis (1)	
Choose from 1 MICR course and accompanying lab from the following:			4
	MICR 2060	Microbiology for Health Professions (3)	
	MICR 2065	Microbiology for Health Professions Laboratory (1)	
	MICR 3450	General Microbiology (3) (**Recommended**)	
	MICR 3455	General Microbiology Laboratory (1)	
Complete the following:			
	STAT 2040	Principles of Statistics	4
	PHYS 2010	College Physics I	4
	PHYS 2015	College Physics I Lab	1
	PHYS 2020	College Physics II	4
	PHYS 2025	College Physics II Lab	1
	CHEM 1215	Principles of Chemistry I Laboratory	1
	CHEM 1225	Principles of Chemistry II Laboratory	1
	CHEM 2310	Organic Chemistry I	4
	CHEM 2315	Organic Chemistry I Laboratory	1
	CHEM 2320	Organic Chemistry II	4
	CHEM 2325	Organic Chemistry II Laboratory	1
	BTEC 1010	Fundamentals of Biotechnology I Career Survey	3
	BTEC 2010	DNA Manipulation and Analysis	3
	BTEC 2020	Protein Purification and Analysis	3
	BTEC 2030	Cell Culture Techniques	2
	BTEC 2040	Advanced Nucleic Acid Laboratory	3
Elective Requirements:			12 Credits
Additional credits to meet credit and upper-division requirements.			12

Graduation Requirements:

1. Complete the required minimum credit hours.
2. At least 30 credit hours in residence at UVU or satellite sites are required, with 10 hours earned during the last 45 hours.

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3. A minimum of 40 credits must be upper-division (numbered 3000 or above).
4. Complete core courses with a grade of "C" or higher in each BTEC course and a "C-" or higher in all other core courses.
5. Achieve a minimum overall GPA of 2.0 with a minimum GPA of 2.25 in core courses.
6. Successful completion of at least one Global/Intercultural course.

Biotechnology, B.S.**Graduation Plan**

This graduation plan is a sample plan and is intended to be a guide. Your specific plan may differ based on your Math and English placement and/or transfer credits applied. You are encouraged to meet with an advisor and set up an individualized graduation plan in [Wolverine Track](#).

Milestone courses (pre-requisites for a course in one of the subsequent semesters) are marked in red and italicized.

Semester 1	Course Title	Credit Hours
<i>ENGL 1010 or ENGH 1005</i>	Introduction to Academic Writing or Literacies and Composition Across Context	3
<i>MATH 1050 or MATH 1055</i>	College Algebra or College Algebra with Preliminaries	4
<i>BTEC 1010</i>	Fundamentals of Biotechnology I Career Survey	3
American Institutions		3
Humanities Distribution		3
	Semester total:	16
Semester 2	Course Title	Credit Hours
<i>BIOL 1610</i>	College Biology I	4
<i>BIOL 1615</i>	College Biology I Lab	1
PHIL 205G	Ethics and Values	3
<i>ENGL 2010</i>	Intermediate Writing Academic Writing and Research	3
<i>CHEM 1210</i>	Principles of Chemistry I	4
<i>CHEM 1215</i>	Principles of Chemistry I Lab	1
	Semester total:	16
Semester 3	Course Title	Credit Hours
<i>CHEM 1220</i>	Principles of Chemistry II	4
<i>CHEM 1225</i>	Principles of Chemistry II Lab	1
<i>BTEC 2010</i>	DNA Manipulation and Analysis	3
<i>BIOL 3500</i>	Genetics	3
BIOL 3515	Advanced Genetics Lab	1
STAT 2040	Principles of Statistics	4
	Semester total:	16
Semester 4	Course Title	Credit Hours
<i>CHEM 2310</i>	Organic Chemistry I	4
<i>CHEM 2315</i>	Organic Chemistry I Lab	1
<i>BIOL 3400</i>	Cell Biology	3
Elective	Upper Division course	4

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BTEC 2020	Protein Purification and Analysis	3
	Semester total:	15
Semester 5	Course Title	Credit Hours
CHEM 2320	Organic Chemistry II	4
CHEM 2325	Organic Chemistry II Lab	1
PES 1097 or HLTH 1100	Fitness for Life or Personal Health and Wellness	2
Elective	Upper Division Course	4
MICR 3450*	General Microbiology	3
MICR 3455*	General Microbiology	1
	Semester total:	15
* MICR 2060 and 2065 can be taken instead, MICR 3450 and 3455 recommended		
Semester 6	Course Title	Credit Hours
BTEC 2030	Cell Culture Techniques	2
BIOL 3600	Biological Chemistry	3
Fine Arts Distribution		3
Social/Behavioral Science Distribution		3
PHYS 2010	College Physics I	4
PHYS 2015	College Physics I Lab	1
	Semester total:	16
Semester 7	Course Title	Credit Hours
BTEC 2040	Advanced Nucleic Acid Lab	3
Lab Elective*		3
BTEC 481R	Biotechnology Internship	5
Elective	Upper Division course	4
	Semester total:	15
*BTEC 3300 recommended		
Semester 8	Course Title	Credit Hours
BIOL 4550	Molecular Evolution and Bioinformatics	3
Choose any from the following:		5
BTEC 481R	Biotechnology Internship	
BIOL 489R	Biotechnology Internship	
BTEC 489R	Student Research	
BTEC 499R	Student Research	
	Senior Thesis	
BIOL 3550	Molecular Biology	3
PHYS 2020	College Physics II	4
PHYS 2025	College Physics II Lab	1
	Semester total:	15
Note: *Pre-requisites are required to be taken. Please see the advisor.		

	Degree total:	124
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