

# BIOTECHNOLOGY MINOR

## Required Courses

BIO/CHEM 202	Orientation to Biotechnology	2
Select from the following:		4-5
BIO 161	Introduction to Cell and Molecular Biology	
BOT 121	General Botany	
MCRO 221	Microbiology	
MCRO 224	General Microbiology I	
Select from the following:		3-5
BIO 303	Survey of Genetics	
BIO 351	Principles of Genetics	
CHEM 373	Molecular Biology	
Select from the following:		5
CHEM 314	Biochemistry: Fundamentals and Applications	
CHEM 369	Biochemical Principles	
Laboratory elective- select from the following:		3-5
ASCI 403	Applied Biotechnology in Animal Science	
BIO/CHEM 475	Molecular Biology Laboratory	
CHEM 474	Protein Techniques Laboratory	

## Approved Electives

Select from the following: 6-11

### Animal Biotechnology

ASCI 403	Applied Biotechnology in Animal Science
ASCI 406	Applied Animal Embryology and Assisted Reproduction
ASCI 407	Assisted Reproduction Technologies of Gametes and Embryos Laboratory
ASCI 440	Immunology and Diseases of Animals
DSCI 330	Artificial Insemination and Embryo Biotechnology

### Bioinformatics

BIO/CHEM 441	Bioinformatics Applications
CSC 448	Bioinformatics Algorithms

### Cell and Molecular Biology/Microbial Biotechnology

BIO 426	Immunology
BIO 452	Cell Biology
BIO/CHEM 475	Molecular Biology Laboratory
BIO 476	Gene Expression Laboratory
CHEM 474	Protein Techniques Laboratory
CHEM 428	Nutritional Biochemistry
MCRO 225	General Microbiology II
MCRO 320	Emerging Infectious Diseases
MCRO 402	General Virology
MCRO 433	Microbial Biotechnology

### Engineering-related Biotechnology

BRAE 448	Bioconversion
ENGR 581	Biochemical Engineering

ENVE 443	Bioremediation Engineering
<b>Ethics</b>	
PHIL 339 or PHIL 341	Biomedical Ethics Professional Ethics
<b>Pharmaceutical Biotechnology</b>	
CHEM 377	Chemistry of Drugs and Poisons
CHEM 477	Biochemical Pharmacology
<b>Plant Biotechnology</b>	
BOT 323	Plant Pathology
<b>Total units</b>	<b>28</b>