

BIOTECHNOLOGY DEGREE (A20100)

The Biotechnology curriculum, which has emerged from molecular biology and chemical engineering, is designed to meet the increasing demands for skilled laboratory technicians in various fields of biological and chemical technology.

A program that focuses on the application of the biological sciences, biochemistry, and genetics to the preparation of new and enhanced agricultural, environmental, clinical, and industrial products, including the commercial exploitation of microbes, plants, and animals. Potential course work includes instruction in general biology, general and organic chemistry, physics, biochemistry, molecular biology, immunology, microbiology, genetics, and cellular biology.

Course work emphasizes biology, chemistry, mathematics, and technical communications. The curriculum objectives are designed to prepare graduates to serve in three distinct capacities: research assistant to a biologist or chemist, laboratory technician/instrumentation technician, and quality control/quality assurance technician.

Graduates should be qualified for employment in various areas of industry and government, including research and development, manufacturing, sales, and customer service.

COURSE & HOUR REQUIREMENTS

Course Number & Name	Class Hours	Lab Hours	Credit Hours
FALL SEMESTER			
ACA 111 College Student Success OR ACA 122 Transfer & Career Success	0/1	0/2	1
BIO 111 General Biology	3	3	4
BTC 181 Basic Lab Techniques	3	3	4
CHM 131 Intro to Chemistry AND CHM 131A Intro to Chemistry Lab OR CHM 151 General Chemistry I	3	3	4
CIS 110 Introduction to Computers	2	2	3
Total	11/12	11/13	16
SPRING SEMESTER			
BIO 112 General Biology II	3	3	4
BTC 281 Bioprocess Techniques	2	6	4
CHM 132 Organic and Biochemistry OR CHM 152 General Chemistry II	3	3	4
**Math Elective	2/3	2	3/4
Total	10/11	14	15/16
SUMMER SEMESTER			
BIO 175 General Microbiology OR BIO 275 Microbiology	2/3	2/3	3/4
*ENG 111 Writing and Inquiry	3	0	3
ISC 220 Lean Manufacturing	2	2	3
Total	7/8	4/5	9/10
FALL SEMESTER			
BTC 150 Bioethics	3	0	3
BTC 250 Principles of Genetics	3	0	3
BTC 285 Cell Culture	3	3	4
ISC 132 Manufacturing Quality Control	2	3	3
Total	11	6	13
SPRING SEMESTER			
BTC 288 Biotech Lab Experience OR WBL 111 Work-Based Learning I	0/0	6/10	2/1
**English/Communication Elective	3	0	3
**Humanities/Fine Arts Elective	3	0	3
ISC 278 cGMP Quality Systems	2	0	2
*Social/Behavioral Science Elective	3	0	3
Total	11	6/10	12/13
TOTAL SEMESTER CREDIT HOURS FOR DEGREE			65/68

*This course is a component of the general education requirements needed for graduation.

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Course Number & Name	Class Hours	Lab Hours	Credit Hours
**MATH ELECTIVE <i>Select one course from the following:</i>			
MAT 110 Mathematical Measurement & Lit.	2	2	3
MAT 121 Algebra/Trigonometry I	2	2	3
MAT 143 Quantitative Literacy	2	2	3
MAT 152 Statistical Methods I	3	2	4
MAT 171 Precalculus Algebra	3	2	4
**ENGLISH/COMMUNICATION ELECTIVE <i>Select one course from the following:</i>			
COM 110 Introduction to Communication	3	0	3
COM 120 Intro to Interpersonal Communication	3	0	3
COM 231 Public Speaking	3	0	3
ENG 112 Writing/Research in the Disciplines	3	0	3
ENG 114 Professional Research & Reporting	3	0	3
**SOCIAL/BEHAVIORAL SCIENCE ELECTIVE <i>Select one course from the following:</i>			
ECO 251 Principles of Microeconomics	3	0	3
ECO 252 Principles of Macroeconomics	3	0	3
HIS 111 World Civilizations I	3	0	3
HIS 112 World Civilizations II	3	0	3
HIS 121 Western Civilization I	3	0	3
HIS 122 Western Civilization II	3	0	3
HIS 131 American History I	3	0	3
HIS 132 American History II	3	0	3
HIS 221 African American History	3	0	3
POL 120 American Government	3	0	3
PSY 150 General Psychology	3	0	3
SOC 210 Introduction to Sociology	3	0	3
SOC 213 Sociology of the Family	3	0	3
SOC 225 Social Diversity	3	0	3
**HUMANITIES/FINE ARTS <i>Select one course from the following:</i>			
ART 111 Art Appreciation	3	0	3
ART 113 Art Methods and Materials	0	6	3
ENG 131 Introduction to Literature	3	0	3
ENG 231 American Literature I	3	0	3
ENG 232 American Literature II	3	0	3
ENG 241 British Literature I	3	0	3
ENG 242 British Literature II	3	0	3
HUM 115 Critical Thinking	3	0	3
MUS 110 Music Appreciation	3	0	3
MUS 111 Fundamentals of Music	3	0	3
MUS 112 Introduction to Jazz	3	0	3
PHI 210 History of Philosophy	3	0	3
PHI 215 Philosophical Issues	3	0	3
PHI 240 Introduction to Ethics	3	0	3
REL 110 World Religions	3	0	3