Biotechnology Science (9375)

Associate of Applied Science Degree

The Biotechnology Science program prepares students for entry-level laboratory technician positions in research and industrial laboratories engaged in biotechnology. Graduates may choose career paths in the medical, pharmaceutical, agricultural, environmental, or forensic science industries, as well as basic biological research. The program emphasizes hands-on training utilizing industry standard equipment to perform both routine and specialized experimental techniques. Students become adept in macromolecular separation and characterization, genetic manipulation, cell culture, and microbial growth control. Fundamental laboratory skills such as documentation, reagent preparation, safety, troubleshooting, good laboratory practice (GLP), and good manufacturing practice (GMP) are stressed.

A minimum GPA of 2.0 and a "C" grade or higher is required in all science and program-specific courses for graduation. Satisfactory/Unsatisfactory grades may not be used to fulfill health program requirements.

A certificate is also available.

Admission Procedures

Students must meet specific admission requirements for this program. Listed below are requirements for admission to the Biotechnology Science Program:

- Complete college application(s).
- Submit high school transcript as well as any college transcript(s).
- Meet with the biotechnology science program director to obtain a program application form.
- Meet with a counselor to review program prerequisites and requirements.
- Completion of high school chemistry with a grade of "C" or above or successful completion of CHEM 1100 Elementary Chemistry.
- Successful completion of MATH 0950 Intermediate Algebra or placement into MATH 1650 College Algebra (A).

Course	Title	Credit Hours
First Semester		
BIOS 1050	Introduction to Biotechnology Science	3
BIOS 1200	Biotechnology Science Lab Skills	4
BIOL 1510	Principles of Biology I [1]	4
CHEM 1500	General Chemistry I [2]	5
FYEX 1000	First Year Experience	1
	Credit Hours	**17**
Second Semester		
BIOS 1500	Introduction to Biochemistry	4
BIOL 2700	Microbiology	4
CHEM 1600	General Chemistry II	5
ENGL 1110 or ENGL 1111	English Composition I (A) [3] or English Composition I (B)	3
	Credit Hours	**16**
Summer		
BIOS 1600	Advanced Molecular Separations	4
BIOS 2100	Applied Microbiology	3
	Credit Hours	**7**
Third Semester		
BIOS 2500	Recombinant DNA Technology	4
BIOS 2600	Bioscience Manufacturing Processes	4
MATH 1550	Statistics (A) [4]	4
	Credit Hours	**12**
Fourth Semester		
BIOS 2550	Introduction to Bioinformatics	1

BIOS 2800	Biotechnology Science Seminar	1
COMM 1050	Fundamentals of Public Speaking [5]	2
Select course(s) from the Social and Behavioral Science Electives list		3
1st 8 weeks		
BIOS 2400	Tissue Culture	3
2nd 8 weeks		
BIOS 2700	Internship	3
	Credit Hours	**13**
	Total Credit Hours	**65**

1 Completion of BIOL 1200 Fundamentals of Biology for the Health Technologies prior to program acceptance is an acceptable substitution.

2 BIOS 1200 Biotechnology Science Lab Skills is an acceptable math co-requisite for CHEM 1500 General Chemistry I. See program chair for registration.

3 English course selection is based on placement test results (ENGL 1111 English Composition I (B) is 4 credits, only 3 credits apply to the degree). Students who place into ENGL 1111 English Composition I (B) should consult with the program chair.

4 Any college-level math course is an acceptable substitute.

5 Students may substitute COMM 1000 Effective Public Speaking. This 3 credit hour course may be required for students transferring to a four-year college. Completion of COMM 1100 Effective Interpersonal Communications prior to program accceptance is also an acceptable substitute.

This course is designated as a technical course in the program. Students must earn a "C" grade or higher in the course to fulfill the college's graduation requirements policy.

Electives

Course	Title	Credit Hours
Social and Behavioral Sciences Electives		
ANTH 1160	Introduction to Cultural Anthropology	3
ECON 1150	Basic Economics	3
ECON 2500	Principles of Macroeconomics	3
ECON 2600	Principles of Microeconomics	3
GEOG 1500	Introduction to Geography	3
GEOG 1600	World Regional Geography	3
HIST 1150	Western Civilization I: Antiquity Through the Reformation	3
HIST 1250	Western Civilization II: Age of Revolution Through the Present	3
HIST 2150	U.S. History: Colonization Through Reconstruction	3
HIST 2250	U.S. History: Reconstruction to the Present	3
POLS 1300	U.S. National Government	3
POLS 2500	Modern Political Ideologies	3
PSYC 1500	Introduction to Psychology	3
SOCY 1150	Principles of Sociology	3