Program Description

The biotechnology program is designed to instruct and train students in the field of biotechnology. Entry-level workers in the field of biotechnology are involved in laboratory work such as DNA isolation or sequencing, cell culture, toxicology or vaccine sterility testing, antibody production and isolation, and the testing and development of diagnostic and therapeutic agents. Training is designed to prepare students for both academic achievement and successful employment in the biotechnology industry. The program offers both a degree and two certificates to meet students' different needs.

On completion of the biotechnology AAS, the student may transfer to another institution and earn a bachelor's degree in a biological science or may elect to enter the workforce. Course selection within the curriculum depends on which option the student selects.

The emphasis of the program is on applied laboratory skills relevant to the biotechnology industry. A solid foundation is obtained through introductory coursework in biotechnology, biology, chemistry, and mathematics. These background courses prepare students for more rigorous upper-level applied coursework in biotechnology, biology, and chemistry taken during the second year. High school biology, chemistry, and math (algebra II) are strongly recommended.

Because of the variation in requirements of four-year institutions, students are urged to consult an advisor about specific course selections.

Program Outcomes

Upon completion of this program a student will be able to:

• Independently complete basic laboratory tasks common to biotechnology such as documentation, pipetting, buffer preparation, dilutions, and gel electrophoresis.

• Define and explain the basic principles, concepts, and techniques of biotechnology.
Suggested Course Sequence
A suggested course sequence for full-time students follows. All students should review this advising guide and consult an advisor.

First Semester
- ENGL 101 - Introduction to College Writing 3 semester hours *
- Mathematics Foundation 3 semester hours (MATF)
- BIOL 150 - Principles of Biology I 4 semester hours (NSLD)
- BIOT 110 - Introduction to Biotechnology 2 semester hours
- CHEM 131 - Principles of Chemistry I 4 semester hours (GEEL)

Third Semester
- BIOL 222 - Principles of Genetics 4 semester hours
- BIOT 230 - Basic Immunology and Immunological Methods 4 semester hours
- CHEM 150 - Essentials of Organic and Biochemistry 4 semester hours ‡

Second Semester
- English Foundation 3 semester hours (ENGF)
- BIOT 120 - Cell Culture and Cell Function 3 semester hours
- BIOT 200 - Protein Biotechnology 4 semester hours
- BIOL 210 - Microbiology 4 semester hours

Fourth Semester
- BIOT 240 - Nucleic Acid Methods 4 semester hours
- Behavioral and Social Sciences Distribution 3 semester hours (BSSD)
- Program Electives 8 semester hours †

Total Credit Hours: 60

* ENGL 101/ENGL 101A, if needed for ENGL 102/ENGL 103, or elective.
‡ CHEM 203 (5 semester hours) may be taken instead of CHEM 150.
† Program electives: BIOT 250, CMAP 120, CHEM 132, CHEM 204, PHYS 233, SCIR 297, MATH elective, BIOL elective, COMM 108 or COMM 112, HUMD, BSSD, or ARTD.