

# Associate of Applied Science Degree Science and Health Technologies

## Biotechnology Science (9375)

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 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.

### ADMISSION PROCEDURES

**Students must meet specific admission requirements for this program.** Listed below are requirements for admission to the Bioscience Technology Program:

- Complete college application(s).
- Submit high school transcript as well as any college transcript(s).
- Obtain written permission from the Biotechnology Science program director for first semester registration.
- 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.
- Successful completion of ITIS 1000 Introduction to Personal Computers or successful completion of credit by exam for ITIS 1000

**A certificate is also available.**

#### First Semester:

BIOS 1050 . . . . .	Introduction to Biotechnology Science. . . . .	3
BIOS 1200 . . . . .	Biotechnology Science Lab Skills. . . . .	5
BIOL 1510. . . . .	Principles of Biology I. . . . .	4
CHEM 1500 . . . . .	General Chemistry I. . . . .	5

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#### Second Semester:

BIOS 1500 . . . . .	Introduction to Biochemistry . . . . .	4
BIOL 2700. . . . .	Microbiology . . . . .	4
CHEM 1600 . . . . .	General Chemistry II . . . . .	5
<b>ENGL 1110*</b> . . . . .	<b>English Composition I (A)</b> . . . . .	<b>3</b>
<b>OR</b>		
<b>ENGL 1111.</b> . . . . .	<b>English Composition I (B)</b>	

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#### Summer:

BIOS 1600 . . . . .	Advanced Molecular Separations. . . . .	4
BIOS 2100 . . . . .	Applied Microbiology . . . . .	3
Choose course(s) from the Arts and Humanities Elective list. . . . .		3

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#### Third Semester:

BIOS 2500 . . . . .	Recombinant DNA Technology . . . . .	4
BIOS 2600 . . . . .	Bioscience Manufacturing Processes . . . . .	5
ENGL 1120 . . . . .	English Composition II . . . . .	3
Choose course(s) from the Social and Behavioral Science Electives list. . . . .		3

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#### Fourth Semester:

BIOS 2550 . . . . .	Introduction to Bioinformatics . . . . .	1
BIOS 2800 . . . . .	Biotechnology Science Seminar . . . . .	1
<b>SPCH 1050**</b> . . . . .	<b>Fundamentals of Public Speaking</b> . . . . .	<b>2</b>

**OR**

**SPCH 1150 . . . . .Fundamentals of Interpersonal Communication**

**(Weeks 1-6):**

BIOS 2400 . . . . .	Tissue Culture . . . . .	3
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**(Weeks 7-16):**

BIOS 2700 . . . . .	Internship . . . . .	5
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**Program Total: 70**

*\*English course selection is based on placement test results (ENGL 1111 is 4 credits, only 3 credits apply to the degree).*

*\*\*Students may substitute either SPCH 1000 or SPCH 1100. One of these 3 credit courses may be required for students transferring to a four-year college.*

**Arts and Humanities Electives: minimum 3 credits**

ARTS 1120, 2220, 2230; ENGL 2250, 2260, 2280, 2290; HUMX 1100, 1200; MUSC 1200, 1215, 1800, 2200, 2250; PHIL 1500, 2000

**Social and Behavioral Sciences Electives: minimum 3 credits**

ANTH 1160; ECON 1150, 2500, 2600; GEOG 1500, 1600, 2500; HIST 1100, 1200, 2100, 2200, 2400; POLS 1300, 2500; PSYC 1500; SOCY 1150