

Foothill College

Curriculum Sheet Proof Page

Biotechnology (BTEC)

Academic Year 2011-2012

The Biotechnology Laboratory Technician Training Program is an intensive full-time, nine-month sequence of instruction, with entry in the Fall Quarter only. This program is designed to prepare students for jobs as entry-level laboratory technicians in a variety of research areas, including pharmaceutical, biotechnology and medical laboratories. To be competitive for these positions, graduates need to be confident and capable in the laboratory. Students who complete the program in a satisfactory manner will be awarded a Certificate of Achievement in Biotechnology and may elect to pursue an Associate of Science degree in Biotechnology. We also offer three shorter Certificates of Specialization in distinct areas of biotechnology. General information about all the certificates, frequently asked questions, and the application for admission can be found at the Biotechnology Program website at: <http://www.foothill.edu/bio/programs/biotech>.

Career Opportunities

Job opportunities abound in the Bay Area at every level of education and experience. This program will prepare the student for jobs in a variety of laboratory settings including pharmaceutical, biotechnology, and medical laboratories. Salaries generally start at \$35,000-\$60,000 for entry-level positions. Advancement, stock options and benefits may be available for the motivated employee. To download the application for admission to this exciting career, please visit our website at: <http://www.foothill.edu/bio/programs/biotech>.

Units required for Major: 86.5

Units required for Certificate: 46.5

Associate Degree Requirements:

English proficiency: ENGL 1A, ESLL 26, or equivalent
Mathematics proficiency: MATH 105, 108 or equivalent

A minimum of 90 units required to include:

- All **Foothill** General Education requirements
- Core courses (43.5 Units)
- Electives (3 units)
- **BTEC 71** Advanced Molecular Biology Techniques (2 units)
- **BTEC 75** Immunobiotechnology: Laboratory Technique (2 units)
- one additional **BTEC** elective course (1 unit)
- **MATH 10** Elementary Statistics (5 units)
- other graduation requirements as appropriate

NOTE: All courses pertaining to the major must be taken for a letter grade. In addition, a grade of "C" or higher is required in all required courses.

Program Type(s):

AS = Associate in Science Degree.

CA = Certificate of Achievement.

PREREQUISITES

MATH 105 or **MATH 108**, or equivalent;

ENGL 1A or **ESLL 26** or eligibility*:

BIOL 10 or recent high school biology; and

CHEM 25 or **CHEM 1A** or equivalent (CHEM 1A is recommended for students intending to transfer to a four-year

institution)

*for Math and English assessment and placement, please visit the Foothill College Placement Testing Office at <http://www.foothill.edu/placement/index.php>

Core Courses: (43.5 units)

Courses to be taken in sequence (courses offered once a year)

Fall Quarter

BTEC 51A Cell Biology for Biotechnology (3 Units)
BTEC 51AL Cell Biology Laboratory for Biotechnology (5.5 Units)
BTEC 60 Plant Biotechnology & Tissue Culture (3.5 Units)
BTEC 66 HPLC: Laboratory Technique (2 Units)

Winter Quarter

BTEC 52A Molecular Biology for Biotechnology (3 Units)
BTEC 52AL Molecular Biology Laboratory for Biotechnology (5.5 Units)
BTEC 61 Microbial Biotechnology (4.5 Units)
BTEC 69 Mammalian Cell Culture Techniques (3 Units)

Spring Quarter

BTEC 53A Immunology & Virology for Biotechnology (3 Units)
BTEC 53AL Immunology Laboratory for Biotechnology (5.5 Units)
BTEC 77 Environmental Biotechnology (5 units)

Elective Courses: (3.0)

These courses are to be taken as student schedule permits:

*BTEC 64 Protein Electrophoretic Systems: Laboratory Technique (1 Unit)
*BTEC 65 Nucleic Acids Electrophoretic Systems: Laboratory Technique (1 Unit)
*BTEC 67 Immunological Assays: Laboratory Technique (1 Unit)
*BTEC 68 Polymerase Chain Reaction: Laboratory Technique (1 Unit)
*any of these course may be taken 2 times for credit.

Certificate of Achievement (46.5)

A Certificate of Achievement is awarded upon completion of the Core Courses and 3 units of the following:

*BTEC 64 Protein Electrophoretic Systems: Laboratory Technique (1 Unit)
*BTEC 65 Nucleic Acids Electrophoretic Systems: Laboratory Technique (1 Unit)
*BTEC 67 Immunological Assays: Laboratory Technique (1 Unit)
*BTEC 68 Polymerase Chain Reaction: Laboratory Technique (1 Unit)
*BTEC 71 Advanced Molecular Biology Techniques (2 Units)
*BTEC 75 Immunobiotechnology: Laboratory Technique (2 Units)
*any of these course may be taken 2 times for credit.

Certificate of Specialization in Immunological Techniques (17) [Non-Transcriptable]

BTEC 51A Cell Biology for Biotechnology (3 Units)
BTEC 51AL Cell Biology Laboratory for Biotechnology (5.5 Units)
BTEC 53A Immunology & Virology for Biotechnology (3 Units)
BTEC 53AL Immunology Laboratory for Biotechnology (5.5 Units)

Certificate of Specialization in Cellular Techniques (15) [Non-Transcriptable]

BTEC 51A Cell Biology for Biotechnology (3 Units)
BTEC 51AL Cell Biology Laboratory for Biotechnology (5.5 Units)
BTEC 69 Basic Mammalian Cell Culture Techniques (3 Units)
BTEC 60 Plant Biotechnology & Tissue Culture (3.5 Units)

Certificate of Specialization in Molecular Techniques (12.5) [Non-Transcriptable]

BTEC 51A Cell Biology for Biotechnology (3 Units)
BTEC 51AL Cell Biology Laboratory for Biotechnology (5.5 Units)
*BTEC 65 Nucleic Acids Electrophoretic Systems: Laboratory Technique (1 Unit)
*BTEC 68 Polymerase Chain Reaction: Laboratory Technique (1 Unit)
*BTEC 71 Advanced Molecular Biology Techniques (2 Units)

Academic Year: 2011-2012

Current status: Review

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