



CURRICULUM GUIDE 2013-2014

BIOTECHNOLOGY: CELL PRODUCTION/FERMENTATION

Certificate of Achievement in Biotechnology: Cell Production/Fermentation

The Certificate of Achievement in Biotechnology: Cell Production/Fermentation is a program designed to train students in the methods and techniques used in biotechnology, with emphasis on cell production used in manufacturing settings. Courses in this program train students in DNA and protein laboratory techniques and assays, laboratory record keeping, sterile techniques, and cell-culturing techniques. The student is prepared for biomanufacturing and pharmomanufacturing entry-level positions requiring skills in cell culturing and fermentation.

Requirements for Certificate of Achievement:

- a) Complete Major Field courses as indicated below.
- b) Complete at least six units at Ohlone College.
- c) Maintain a 2.0 grade point average in Major Field courses.

Student Learning Outcomes

1. Apply industrial standards in recording laboratory procedures and results in a laboratory notebook.
2. Demonstrate the use of common laboratory equipment such as micropipetters, spectrophotometers, electrophoretic equipment, pH meters, thermocyclers, bioreactors, etc.
3. Prepare buffers and other laboratory stock and working solutions to proper specifications.

MAJOR FIELD

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| BIOT-105 | Introduction to Cell and Molecular Biology | 4 |
| BIOT-110A1 | Introduction to DNA Techniques | 1 |
| BIOT-110A2 | PCR I and DNA Sequencing | 1 |
| BIOT-110A3 | Protein Isolation and Assays | 1 |
| BIOT-113 | GMP/GLP | 1 |
| BIOT-115A | Mammalian Cell Culture Techniques | 1 |
| BIOT-115B | Bioreactor Cell Culture Techniques | 1 |
| BIOT-117 | Immunology | 1 |
| BIOT-119 | Clean Room Operations | .5 |
| BIOT-121 | Biotechnology Careers | 1 |
| BIOT-123 | Writing SOPs | .5 |

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| CAOT-148 | Computer Applications in Biotechnology | .5 |
| CHEM-109 | Biochemistry for Health Science and Biotechnology | 4 |
| ENGL-156 | Introduction to Report and Technical Writing | <u>3</u> |
| | Total Required Units: | 20.5 |