



CURRICULUM GUIDE 2019-2020

BIOTECHNOLOGY OPERATIONS

Certificate of Achievement in Biotechnology Operations

The Certificate of Achievement in Biotechnology Operations provides students with excellent preparation in various protocols and hands-on laboratory skills used in biotechnology companies. Students will also become familiar with the primary functional areas of biotechnology operations: product development, regulatory affairs, manufacturing, quality assurance, and quality control. A goal of the program is to prepare students for entry-level positions in biotech and pharmaceutical companies, including jobs as laboratory assistants and bio-manufacturing technicians.

Requirements for Certificate of Achievement:

- a) Complete Major Field courses.
- 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 for documentation of laboratory procedures and results.
2. Demonstrate the use of common laboratory equipment such as micropipettes, spectrophotometers, electrophoresis equipment, pH meters, thermocyclers, bioreactors, etc.
3. Prepare buffers and other laboratory stock and working solutions to proper specifications.
4. Identify and compare the roles and responsibilities of the primary functional areas of biotechnology operations: Product Development, Regulatory Affairs, Manufacturing, Quality Assurance, and Quality Control.

MAJOR FIELD

BIOT-105	Introduction to Cell and Molecular Biology	4
BIOT-110A	DNA and Protein Purification and Analysis	3
BIOT-113	GMP/GLP and Writing SOPs	1.5
BIOT-115A	Mammalian Cell Culture Techniques	1
BIOT-115B	Bioreactor Cell Culture Techniques	1
BIOT-118	Biotechnology Operations	3
BIOT-119	Clean Room Operations	.5
BIOT-121	Biotechnology Careers	1
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: 22.5