



CURRICULUM GUIDE 2012-2013

BIOTECHNOLOGY: BIO-MANUFACTURING

Certificate of Achievement in Biotechnology: Bio-Manufacturing

This certificate program provides students with an excellent preparation in various protocols and hands-on laboratory skills used in many biotechnology companies. A goal of the program is to prepare students for entry-level positions in biotech and pharmaceutical companies.

This certificate prepares students as laboratory research assistants and bio-manufacturing technicians. It provides excellent preparation in laboratory skills used in entry-level positions at many biotechnology and pharmaceutical companies.

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 micropipettors, spectrophotometers, electrophoretic equipment, pH meters, thermocyclers, bioreactors, etc.
3. Prepare buffers and other laboratory stock and working solutions to proper specifications.

MAJOR FIELD

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-119	Clean Room Operations	.5
BIOT-121	Biotechnology Careers	1
BIOT-123	Writing SOPs	.5
CHEM-109	Biochemistry for Health Science and Biotechnology	<u>4</u>
Total Required Units:		16

OPTIONAL COURSES (RECOMMENDED)

BIOT-112	Introduction to Bioinformatics	(2)
BIOT-114	Introduction to Plant Biology	(3)
BIOT-117	Immunology	(1)
BIOT-120A	Introduction to SEM Technology	(.5)
BIOT-120B	SEM - Biological Applications and Techniques	(.5)
BIOT-122	Introduction to Nanotechnology	(3)
BIOT-131	Computing Concepts in Biotechnology	(4)
BIOT-133	Introduction to SAS Programming	(3)
BIOT-143	Advanced SAS Programming	(3)
BIOT-203	Biotechnology Internship	(3)
CAOT-148	Computer Applications in Biotechnology	(.5)