



CURRICULUM GUIDE 2012-2013

BIOTECHNOLOGY: QUALITY CONTROL/RESEARCH ASSOCIATE

Certificate of Achievement in Biotechnology: Quality Control/Research Associate

The Certificate of Achievement in Biotechnology: Quality Control/Research Associate is designed to train students in methods and techniques used in biotechnology QA/QC and research settings. Courses in this program train students in DNA and protein laboratory techniques and assays, laboratory record keeping, sterile techniques, advanced PCR procedures, and genomic/cDNA library construction and analytical skills. The program prepares students for entry-level positions in biotechnology/pharmaceutical companies as research assistants, quality control and/or quality assurance assistants/technicians and laboratory assistants/technicians.

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-111A	Genomic and cDNA Library Construction and Analysis	1
BIOT-111B	PCR Primer Design and Optimization and Reverse Transcription	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
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:	21.5