

Be Something...

Biological and Environmental Studies

What preparation will this program give me?

The Biotechnology program at Berkeley City College is well suited to prepare students for the thousands of biotechnology jobs expected to open up in the next ten years in the San Francisco Bay Area, the biotechnology capital of the world. There are more than 200 local biotechnology companies in the Bay Area, such as Bayer, Chiron and Genentech. Some of the companies have grown from small research laboratories to companies with large manufacturing plants. There is a demand for entry-level technicians to work in the manufacturing component of the biotech industry.

The Biomanufacturing program at Laney College provides an entry into an exciting and expanding new field. Biomanufacturing training prepares students for work in Biotechnology and Pharmaceutical manufacturing industries in the production, purification and isolation of biological products. The Laney Biomanufacturing Program provides students with the necessary training in the basic skills of biology, math and chemistry and an introduction to Biomanufacturing careers in a “career ladder” format. Career ladders are specifically designed education and training opportunities to prepare workers to quickly enter the workforce with a living wage and then move up to jobs of increasing responsibility, reward and stability.

The Environmental Management and Restoration Technology program at Merritt College prepares students for employment in the fields of environmental restoration and management.



What kind of job will I be qualified for when I finish?

Biotechnology: This program prepares students for a wide variety of career options. Program graduates have found laboratory technician jobs at local biotechnology firms including Bayer, Chiron and Northview, the California Department of Health and Human Services, Lawrence Berkeley National Laboratory, and research laboratories at the University of California, Berkeley.

Biomanufacturing: Graduates of one of the two Laney Certificate programs will be well qualified for jobs with pharmaceutical companies. The two-semester Certificate program is an intensive, 17-unit program of biology, mathematics and chemistry courses. The one-semester fast-track program consists of three courses (Biology, Math and Chemistry) and provides an excellent opportunity for students who want a fast entry into the workforce. Students who complete the one-semester program can apply their coursework for the two-semester program at a later date.

Environmental Management and Restoration Technology: Graduates will be employed by environmental organizations, public agencies (parks, forests, wild lands, urban and regional planning agencies, etc...) and private enterprises. Graduates are hired to assess and monitor environmental quality, help prepare environmental impact reports, assist planners and managers, and perform environmental restoration work.

“My goal is to work in a federal or state crime lab and go for a master’s in forensic toxicology. I had two instrumental teachers at Berkeley City College. My instructors always were encouraging and available to explain and answer questions. They pushed and helped me strive to do my best.”

—Aisha Wright, Biotechnology Program Graduate, Transfer Student, and Winner of the Katherine Miller Award for Women in Science

(see next page)



What classes will I take?

Required Courses:

Biotechnology		Units
BIOL 3	Microbiology	5
BIOL 10	Introduction to Biology	4
BIOL 32	Scientific Literature	2
BIOL 33	Applied Immunology	6
BIOL 34	Applied Molecular Genetics	6
BIOL 230	Introduction to Instrumentation	2
CHEM 30A	Introductory Inorganic Chemistry	4
CHEM 30B	Introductory Organic & Biochemistry	4
CIS 1	Introduction to Computer Information Systems	4
ENGL 53	Technical Writing	3
MATH 1	Pre-Calculus	4
PHYS 10	Introduction to Physics	4
Total Required Units		48

Biomanufacturing		Units
BIO 75	Fundamentals of Biotechnology	2
MATH 208	Math for Laboratory Scientists	3
CHEM 30A	Introductory Chemistry	4
BIO 76	Principles of Biomanufacturing	3
BIO 003	Principles of Microbiology	5
Total Required Units		17

Environmental Management and Restoration Technology		Units
BIOL 15	Environmental Biology	3
BIOL 29	Biology of the Living World	4
CIS 205	Computer Literacy	1
EMART 44	Environmental Impact Reports	3
ENVST 11	Introduction to Sustainable Environmental Systems	3 OR
BIOL 1	Principles of Ecology	3
ENVST 12	Urban Ecology	2
ENVST 15	Environmental Law	3
ENVST 16	Environmental Careers	1
ENVST 28	Environmental Field Methods	3-5
FORST 10	Forest and Wildland Resource Conservation	3
And:	any Geology course of 3 or more units	3
	any Environmental Field Studies course	2
And:	4 units selected from the following list:	
ENVST 22	Restoration Landscaping	2
EMART 23A	Restoration and Monitoring of Watercourses: General	2
EMART 23B	Restoration and Monitoring of Watercourses: Hydrology	2
EMART 23C	Restoration and Monitoring of Watercourses: Chemistry	2
Total Required Units		35-37

What degree will I receive and how many course credits will I need?

Students can obtain an Associate in Science degree, a Certificate of Completion or a Certificate of Achievement in Biotechnology from Berkeley City College. An Associate in Science degree is given after satisfactory completion of 61 units of required coursework including general education and elective course units. A Certificate of Completion is given after satisfactory completion of the 48 units of required coursework. A Level I Certificate of Achievement is given after satisfactory completion of the 16.5 units of required coursework.

Students can obtain a Certificate of Achievement in Biomanufacturing from Laney College. A Certificate of Achievement is given after satisfactory completion of the 17 units of required coursework. A Certificate is also awarded after satisfactory completion of the one-semester, "fast-track" program.

The Associate in Science degree in Environmental Management and Restoration Technology will be awarded upon satisfactory completion of the Major course requirements and the General Education requirements. A Certificate of Completion will be awarded upon satisfactory completion of the major course requirements. Two specialized Certificates of Achievement are also offered in ecological restoration and geographic information systems/ global positioning systems (GIS/GPS).

Where do I get more information?

Contact Berkeley City College Biotechnology program at (510) 981-2887.

Contact Laney College Biomanufacturing program at (510) 464-3402 or contact Dr Leslie Blackie at lblackie@peralta.edu. You can also visit the Laney College Biology department webpage at www.laney.peralta.edu/biology.

Contact Merritt College Environmental Management and Restoration program at (510) 434-3840.

