

BIOTECHNOLOGY (BIOMANUFACTURING)

Pathway: Applied Sciences

Chair: Dr. Miguel Moreno, Room CH/K-405
(213) 763-7322, MorenoMA@lattc.edu

Award Title	Award Type	GE Units	Required Course Units	Major Elective Units	Major Units
Biotechnology	A.S.	21	33	-	33
Biotechnology	C		33	-	33

At least 60 degree applicable units are required to earn an Associate degree.

PROGRAM OVERVIEW

The LATTC Biotechnology Certificate/AS Degree Program is designed to meet the needs of students who wish to acquire the necessary skills in a biotechnology career with an emphasis in biomanufacturing. This program also suits the needs of transfer students who wish to complete their first two years of education in a community college.

Biotechnology is a changing industry that applies science and technologies to living organisms through the process of discovering, developing, manufacturing, and regulating quality of new products. Biotechnology applies to agriculture, human health and medicine, energy and environment. Biotechnology workers are employed in many industries, including, pharmaceutical and medical manufacturing; instrument, equipment and supplies manufacturing; scientific and technical consulting services; scientific and research development services; education; laboratories and government.

Our Biotechnology AS Degree Program focuses on biomanufacturing which directly serves pharmaceutical and medical manufacturing, but also other sectors such as food and agricultural sciences, green technology, and various science-related industries.

The Biotechnology program prepares students to find employment as entry-level lab technicians in fields that may include:

- Biomanufacturing
- Biotechnology
- Environmental Sciences
- Food Science Technicians
- Pharmaceuticals

PROGRAM LEARNING OUTCOMES (PLOs)

Upon completion of the **Degree/Certificate** program, students are able to:

1. Apply basic biological principles to biomanufacturing.
2. Explain and apply the processes in the biomanufacturing industry.
3. Recognize and perform industrial regulatory processes.

USEFUL LATTC LINKS

College Catalog: <http://college.lattc.edu/catalog/>

Financial Aid Office: <http://college.lattc.edu/financialaid/>

Counseling Department: <http://college.lattc.edu/counseling/>

General Education Information: <http://college.lattc.edu/catalog/>

Applied Sciences Pathway: <http://college.lattc.edu/asp/>



BIOTECHNOLOGY

Associate in Science Degree

Major Units: 33

Requirements for the Associate in Science degree in Biotechnology may be met by completing 33 units of Required Courses with a "C" or better along with General Education units. Information on the General Education unit requirements may be found in the catalog under Graduation Requirements.

REQUIRED COURSES

SEMESTER I		UNITS
BIOLOGY 003	Introduction to Biology	4
CHEM 051	Fundamentals of Chemistry I	5
- or Chem Tech 111 Applied Chemistry (5)		
SEMESTER II		UNITS
MICRO 020	General Microbiology	4
PRPLTEK 104	Introduction to Process Plant Safety	3
SEMESTER III		UNITS
BIOTECH 010	Introduction to Biomanufacturing I	4
PRPLTEK 103	Process Plant Equipment	3
SEMESTER IV		UNITS
BIOTECH 012	Introduction to Biomanufacturing II	4
PRPLTEK 102	Process Measure/Control Fundamentals	3
PRPLTEK 214	PTech IV-Quality Performance	3

MAJOR ELECTIVES

		UNITS
MATH 125	Intermediate Algebra	5
LABR ST 004	Labor in America	3
- or POL SC 001 The Government of the United States (3)		
PHILOS 001	Introduction to Philosophy	3
PHYSICS 011	Introductory Physics	4
ENGLISH 101	College Reading and Composition I	3
HEALTH 006	Nutrition for Healthful Living and Fitness Activities	3
- or HEALTH 002 Health and Fitness (3)		
SUPV 011	Oral Communications	3
BUS 033	Technical Report Writing	3

BIOTECHNOLOGY

Certificate of Achievement

Major Units: 33

A Certificate of Achievement in Biotechnology may be earned by completing 33 units of Required Courses listed under the Associates degree in Biotechnology with a grade of "C" or better in each course.

You can enroll in these classes by logging on to the Student Information System at <http://college.lattc.edu/student/new-students/register-now/>

For additional information consult a LATTC college counselor.