

BIOLOGICAL TECHNOLOGY – COMPUTATIONAL BIOLOGY – CERTIFICATE OF ACHIEVEMENT

programs/4fefbf35-853d-406f-74b3-a65daaf1fb74/) for a suggested sequence of courses.

This Certificate of Achievement is not eligible as a major for an Associate Degree.

Top Code: 0430.00

Courses that are part of the *Biological Technology - Computational Biology* curriculum are designed to prepare students to work in the biotechnology industry by providing training in basic data acquisition, management, and analysis in laboratory environments. This is an interdisciplinary program including courses and practical training in statistics, basic concepts of molecular biology, bioinformatics programming, and use of bioinformatics applications and resources.

Employment opportunities include: biomedical industry, academic research institutions, pharmaceuticals companies, and genetic engineering laboratories.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

Program Outcomes

1. Demonstrate an understanding of the fundamental concepts of molecular biology, including DNA, genes, proteins, and genomes.
2. Use online resources such as NCBI (National Center for Biotechnology Information) and bioinformatics applications to research and analyze biological data.
3. Understand and use computer programs to perform customized analyses of biological data, using statistical measures to determine the significance of results.

Requirements for the Certificate of Achievement

Code	Title	Units
Semester I		
CIS 010	INTRODUCTION TO INFORMATION SYSTEMS	3
Select one course from the following:		3-4
BIOL 039	MODERN HUMAN GENETICS	
	or BIOL 102/BIOLOGICAL TECHNOLOGY - BASIC TECHNIQUES	
	or BIOL 110 INTRODUCTION TO BIOTECHNOLOGY	
Semester II		
Select one course from the following:		4
STAT 018	STATISTICS FOR BEHAVIORAL AND SOCIAL SCIENCES	
	or STAT 050 ELEMENTARY STATISTICS	
	or STAT 050H HONORS ELEMENTARY STATISTICS	
CIS 012	INTRODUCTION TO PROGRAMMING USING PYTHON	3
BIOL 028	INTRODUCTION TO BIOINFORMATICS	3
Total Units		16-17

Visit the Program Mapper (<https://pasadena-city.programmapper.ws/academics/interest-clusters/35afad1b-8598-4ecf-a320-0ed4834a7df8/>)