



# BIOTECHNOLOGY

CERTIFICATE AND A.S. DEGREE PATHWAY

**ATTN: EL MODENA STUDENTS**

**TAKE COLLEGE COURSES FOR FREE:**  
\* FREE TUITION  
\* TEXTBOOKS PROVIDED

**FALL 2023**  
**BIOL-190, SECTION #30988**  
**(LECTURE)**

**3 UNITS**

## INTRO TO BIOTECH

**Aug 22 - Dec 8, 2023 (16-week)**

**Tuesday - Friday**

**7:30 AM - 8:20 AM**

**EL MODENA HIGH SCHOOL**

**Room 932**

\* Meet High School Life Science Requirement

**SPRING 2024**  
**BIOL-190L, SECTION #TBD**  
**(LAB)**

**1 UNIT**

## INTRO TO BIOTECH LAB

**Feb 12 - Jun 8, 2024 (16-week)**

**Tuesday - Friday**

**7:30 AM - 8:20 AM**

**EL MODENA HIGH SCHOOL**

**Room 932**

\* Meet High School Life Science Requirement

**BIOL-191**  
**4 UNITS**

## BIOTECH A: BASIC LAB SKILLS

**BIOL-192**  
**4 UNITS**

## BIOTECH B: PROTEINS\*

\*Must have completed BIOL 191 with C or higher.

## INTRODUCTION TO BIOTECH LECTURE & LAB

**BIOL 190/190L** is an introduction to the field of biotechnology including a history of its origin and development, a survey of modern industrial applications and accomplishments, ethical considerations, and career paths. Laboratory experiments emphasizing entry-level employment include chemistry of buffers, metrology, biological molecules, gene expression, cell structure, and molecular biology techniques. Introduces basic biotechnology skills including separation methods, aseptic technique, and documentation.



**NOW ENROLLING FOR FALL 2023**

## BIOTECH A: BASIC LAB SKILLS

**BIOL 191** is a skills-based course with topics that include maintenance of an industry standard notebook; preparation and sterilization of solutions, reagents, and media; utilization of good aseptic technique, proper use and maintenance of laboratory equipment, adherence to quality control protocols, and laboratory safety regulations. Compliance with industry standards and regulations will be incorporated into course procedures.

## BIOTECH B: PROTEINS

**BIOL 192** trains students in fundamental skills in applied biotechnology necessary for any biotechnology laboratory -- particularly focused on downstream manufacturing processes in biomanufacturing. Skills include maintenance of an industry standard notebook, preparation and sterilization of solutions, reagents and media; utilization of good aseptic technique, proper use and maintenance of laboratory equipment, adherence to quality control protocols, lab safety regulations, in vitro translation, large scale expression, purification, modification, western blot analysis, enzyme-linked immunosorbent assay (ELISA), antibody tagging, and fluorescent microscopy. Compliance with industry standards and regulations will be incorporated into course procedures. Prereq: Completing BIOL 191 with a C or higher.

[SCCOLLEGE.EDU/BIOTECHNOLOGY](http://SCCOLLEGE.EDU/BIOTECHNOLOGY)

### LEVEL I CERTIFICATE BIOTECH LAB ASSISTANT

IN ONLY 4 CLASSES

**BIOL 190 | 3 UNITS**  
**INTRO TO BIOTECHNOLOGY**

**BIOL 190L | 1 UNIT**  
**INTRO TO BIOTECH LAB**

**BIOL 191 | 4 UNITS**  
**BIOTECH A: BASIC LAB SKILLS**

**CHEM 100 | 4 UNITS**  
**INTRO TO CHEMISTRY**



### EARN COLLEGE CREDIT

High school students have an opportunity to earn early college credit through dual enrollment or articulation agreements and gain skills to prepare them for lucrative life-science careers.

### EARN CERTIFICATES

A well constructed pathway from high school to community college will allow students to earn the first-level Biotech Lab Assistant certificate as they graduate High School. Students can opt to continue higher level biotech certs at the college.

### TRANSFER AFFORDABLY

Completing the Biotechnology A.S. degree at SCC will allow students to transfer into low cost Biomanufacturing B.S. degree programs at Mira Costa or Solano Community Colleges. With this path, an entire undergraduate degree from start to finish costs less than \$11,000 total—significantly less than the \$20,000 - 35,000 yearly average cost of CSUs & UCs.

### GAIN SKILLS

Biotech courses—with an emphasis on problem solving to build technical and soft skills—prepare students for upper division STEM laboratory courses as well as coveted undergraduate research positions at universities.

### EARN WHILE YOU LEARN

Students can gain employment in the life-science sector while they continue their education, earn good wages, and gain valuable skills. There are opportunities for established biotech students to intern on campus or at an industry site.

### ENSURE JOB SECURITY

Thousands of companies are employing middle-skill workers in Orange County and within the entire state of California. There are over 100,000 life-science industry jobs in Orange County and 1.4 million in California—66% of of which require an A.S. degree or less.

### [SCCOLLEGE.EDU/BIOTECHNOLOGY](http://SCCOLLEGE.EDU/BIOTECHNOLOGY)