BIOMANUFACTURING TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Overview

Have you always wanted a career helping people and making a difference? Are you interested in the production of life-saving therapeutics? Then the biomanufacturing industry is for you. The Biomanufacturing Technology Associates of Applied Science (AAS) program at San Jacinto College equips students with a comprehensive understanding of bioprocessing and manufacturing techniques in the biotechnology industry. This program focuses on developing practical skills in upstream and downstream processing, quality control, and regulatory compliance. Students gain hands-on experience with state-of-the-art equipment, preparing them for roles in biopharmaceutical manufacturing, research and development, and biotechnology industries. Upon completion, graduates will be well-positioned for rewarding careers in the biopharmaceutical and industrial biotechnology fields.

With the new Biomanufacturing Technology AAS degree, San Jacinto College offers students the chance to receive hands-on, real-world experience in a bioprocessing center that includes upstream, downstream, and fill-finish training and cutting-edge equipment. The program is located on the South campus and will also be offered at the Generation Park Campus in the fall of 2025. For details on how to apply, students may email the program director, Dr. Nicole Bradley (nicole.bradley@sjcd.edu).

Earning Potential

Biomedical Technicians: $61,952 [1]

[1] Source: https://govsalaries.com/salaries/biomedical-technician-salary/texas (https://govsalaries.com/salaries/biomedical-technician-salary/texas/)

Campuses

Generation Park

South Campus

Information

The Biomanufacturing Technology AAS curriculum dives into general industry operations and industry techniques, cGDP/cGMP standards, upstream and downstream processes, cleanroom gowning, quality control and quality assurance and regulatory compliance. After completion of the AAS degree students can transfer their skills to directly to day-to-day operations in the biotechnology industry.

Students enrolling into San Jacinto College programs with external learning experiences (i.e., clinical, practicum, externship, cooperative, etc.) will be required to comply with the immunization requirements and policies of the clinical/external learning sites to engage in all clinical/external learning experiences. Vaccination requirements at clinical/external learning sites are implemented pursuant to the independent authority of such facilities and are not mandated by San Jacinto College. Failure to meet the immunization requirements mandated by clinical/external learning sites may limit a student's ability to complete the program and/or may delay the student's graduation date. San Jacinto College does not process exemptions, and students should address potential vaccination exemptions directly with the clinical/external learning site.

Plan of Study

3BIO-MFG

First Year

First Term		**Credits**
Select one of the following:		3
MATH 1314	College Algebra	
MATH 1316	Plane Trigonometry	
MATH 1324	Mathematics for Business and Social Sciences	
MATH 1325	Calculus for Business and Social Sciences	
MATH 1342	Elementary Statistical Methods (Statistics)	
MATH 1350	Mathematics for Teachers I (Fundamentals of Mathematics I)	
BITC 1411	Introduction to Biotechnology	4
Select one of the following:		4
BIOL 1306 & BIOL 1106	Biology for Science Majors I (lecture) and Biology for Science Majors I (lab)	
BIOL 2301 & BIOL 2101	Anatomy and Physiology I (Lecture) and Anatomy and Physiology I (Lab)	
BITC 1191	Special Topics in Biological Technology/ Technician	1
	Credits	**12**

Second Term		
Select one of the following:		4
CHEM 1305 & CHEM 1105	Introductory Chemistry I (lecture) and Introductory Chemistry I (lab)	
CHEM 1311 & CHEM 1111	General Chemistry I (lecture) and General Chemistry I (lab)	
Select one of the following:		4
BIOL 2320 & BIOL 2120	Microbiology for Health Science Majors (lecture) and Microbiology for Health Science Majors (lab)	
BIOL 2321 & BIOL 2121	Microbiology for Science Majors (lecture) and Microbiology for Science Majors (lab)	
BITC 1340	Quality Assurance for the Biosciences	3
BITC 1402	Biotechnology Laboratory Methods and Techniques	4
	Credits	**15**

Summer Year One Term		
ENGL 1301	Composition I	3
BCIS 1305	Business Computer Applications	3
	Credits	**6**
Second Year		
First Term		
BITC 2411	Biotechnology Laboratory Instrumentation	4
BITC 2277	Product Development to Commercialization	2
Select one of the following:		3
Language, Philosophy and Culture (Humanities)		
Creative Arts (Fine Arts)		
Social and Behavioral Sciences		3
	Credits	**12**
Second Term		
BITC 2431	Cell Culture Techniques	4
BITC 2445	Medical Biotechnology	4
BITC 2475	Upstream and Downstream Manufacturing of Biologics	4
BITC 2386 or BITC 2387	Internship - Biotechnology Laboratory Technician Capstone or Internship - Biotechnology Laboratory Technician Experience	3
	Credits	**15**
	Total Credits	**60**

Capstone Experience: BITC 2386 Internship - Biotechnology Laboratory Technician Capstone or BITC 2387 Internship - Biotechnology Laboratory Technician Experience.