

MOORPARK COLLEGE
BIOMANUFACTURING



BACHELOR'S DEGREE PROGRAM

Student Handbook

Academic Year 2024-2025

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Moorpark College has made every reasonable effort to ensure that the information provided in the Bachelor’s Degree Program Student Handbook is accurate and current. However, the content is subject to change. Moorpark College reserves the right to make additions, revisions, or deletions as necessary due to changes in governmental regulations, district policy, or college policy, procedures, or curriculum. The College will make every reasonable effort to inform students of significant changes that occur after the publication of this document. Information regarding significant changes will be posted and available on the Moorpark College website.

Section 1: Introduction

Department Welcome

Congratulations and welcome to the Moorpark College Bachelor's Degree Program: B.S. Biomanufacturing!

We hope that the following information will be of assistance to you as you begin your bachelor's degree program. We are here to support your success in the program.

This Student Handbook explains the policies/procedures and your responsibilities while in the program. Please read this Student Handbook carefully prior to entering the program and continue to utilize it as a reference throughout your two years in the program. Here you will find valuable background information, expectations, and procedures, including policies about student enrollment and progression through the curriculum.

You are responsible for understanding the information contained in the Biomanufacturing Student Handbook and abiding by the policies presented in it. If you have any questions, do not hesitate to contact any member of the student success team.

The handbook is updated annually, so please ensure you refer to the most recent version of the handbook.

Sincerely,

The Bachelor Degree Program Faculty & Staff

Mission Statement & Accreditation

Mission Statement:

Moorpark College's student-first philosophy embraces equity, social justice, anti-racism, and intersectionality. We empower learners from local, national, and global backgrounds to achieve their certificate, associate and baccalaureate degree, and transfer and career education goals. Through the integration of innovative instruction and holistic student support, our programs are designed to foster equitable student outcomes.

Accreditation:

Moorpark College is accredited by the Accrediting Commission for Community and Junior Colleges, Western Association of Schools and Colleges, 428 J Street, Suite 400, Sacramento, CA 95814, (415) 506-0234, an institutional accrediting body recognized by the Council for Higher Education Accreditation and the U.S. Department of Education. Additional information about accreditation, including the filing of complaints against member institutions, can be found at: www.accjc.org

Goals, Objectives, Student Learning Outcomes & Catalog Description

Program Goals & Objectives:

The Biomanufacturing Bachelor's degree program develops students' skills, abilities, and knowledge to work in the unique biological manufacturing environment. The full-time program prepares students for employment in technical or quality positions in the manufacturing sector of the biotechnology industry, which includes biotherapeutics, diagnostics, supplies and services, and industrial products.

Program Student Learning Outcomes:

- Analyze two different biomanufacturing processes, including the technical, financial, and environmental impact of the two options, as well as the identification of the benefits and disadvantages of each.
- Perform an investigation that requires analysis of an Out of Specification (OOS) deviation that occurred during a production step in the manufacture of a pharmaceutical protein.
- Demonstrate the ability to apply Quality by Design (QbD) principles as adopted by the U.S. Food and Drug Administration (FDA) to design a robust, stable, and controlled manufacturing process for a protein pharmaceutical that can be carried out under current good manufacturing Practices (cGMPs).

- Produce a written Corrective Action Preventative Action report in a format standard to the industry. The report will include evidence to justify their conclusions and action plan.
- Produce a professional report and presentation representing their opinion regarding the advantages of selecting a specific biomanufacturing process.
- Perform a criticality assessment with a quality risk assessment approach to determine the Critical Process Parameters (CPPs) that would need to be monitored and controlled.

Catalog Description

The bachelor of science in Biomanufacturing (BS in Biomanufacturing) degree program will develop the skills, abilities, and knowledge students need to work in the unique environment of biological manufacturing. It will prepare students for employment in technical or quality positions in the manufacturing sector of the biotechnology industry, which includes biotherapeutics, diagnostics, supplies and services, and industrial products. Students will gain knowledge in biology, chemistry, engineering, statistics, quality, regulatory affairs, and business. Students will use biomanufacturing laboratory facilities to gain process development skills.

Admission to the BS degree in Biomanufacturing is by application based on a multi-criteria selection process.

California Community College Baccalaureate Program Overview

The California Community Colleges Baccalaureate Degree Program was created to make it easier and more affordable for community college students to get their baccalaureate degree and be eligible for a broader array of employment opportunities.

Legislative Background

On September 28, 2014, California Governor Jerry Brown signed Senate Bill 850 (Block, 2014) authorizing the California Community Colleges Board of Governors to establish the statewide baccalaureate degree pilot program at 15 California community colleges. In November 2014, the Academic Affairs division of the California Community Colleges Chancellor's Office sought applications from colleges that were interested in participating in the pilot program. In May 2015, the Board of Governors approved 15 colleges to participate. The first Baccalaureate Degree Program graduates received their degrees in spring 2018.

On October 6, 2021, California Governor Gavin Newsom signed [AB 927 \(Medina\)](#) authorizing the Board of Governors to expand and extend the operation of the statewide baccalaureate degree pilot program indefinitely. The bill amends [Education Code Section 78040](#) et seq. to authorize the Board of Governors to establish up to 30 baccalaureate degree programs in two applications cycles per academic year. The application cycles are open for submission approximately 60 days prior to the annual due dates of January 15 and August 15.

Section 2: Program Information

Moorpark College Biomanufacturing Program Information

Program Overview:

The Biomanufacturing bachelor's degree program is a four-semester full-time program designed for students who have successfully completed prerequisite coursework and requirements and are seeking biomanufacturing as a professional career. The program prepares students for entry-level positions in the biomanufacturing industry. The curriculum also provides current biomanufacturing entry-level workers access to career advancement.

Associate of Science: Biotechnology & the Bachelor Degree Program

The Associate of Science Degree in Biotechnology aligns with the admissions requirements for the Bachelor of Science (B.S.) degree, except for General Education certification. Moorpark College academic counselors assist students in selecting the best educational plan to meet their needs.

Admission to the B.S. Biomanufacturing program without the Associate's Degree is possible if the following criteria are met:

- A minimum of 60 units of college-level courses
- Successful completion of prerequisites
- An overall GPA of 2.0

General Education (GE) certification is not required for admission but is preferred and necessary for graduation. Students may:

- Work with their counselor to select an appropriate general education pattern
- Complete these courses concurrently with the bachelor's program or over spring and summer

Students admitted conditionally or without General Education certification should meet with their academic counselor at least once per year; however, meeting each semester is recommended to ensure they are on track for graduation.

Transferring Coursework:

Any student who has completed biotechnology or general education coursework or degrees at another institution outside of the Ventura Community College District may request to transfer those units to Moorpark College.

To initiate this process, students should:

1. Meet with an academic counselor to review their courses and determine transferability.
2. Submit official transcripts from other colleges and universities for evaluation.

For those interested in pursuing equivalency or credit for prior learning:

- Meet with an academic counselor to support the formal request process.

Moorpark College academic counselors are available to assist students in selecting future coursework and ensuring a smooth transition.

Information for International Students:

The Office of International Student Program supports approximately 100 international students through a comprehensive support system. Our professional staff is dedicated to assisting international students in achieving their academic goals by offering a variety of services tailored to their needs, including:

- Application process assistance
- Immigration advisement
- Academic counseling
- Activities and clubs

Please note that the B.S. Biomanufacturing Program is currently in the approval process. Approval for new programs can take up to an academic year. For more information, visit [Moorpark College International Student Program](#).

Information for Veterans:

Students planning to use GI Bill benefits must work with a Veteran and Military Affiliated student counselor in advance to ensure their courses and programs receive approval. For more information and to schedule a counseling appointment, visit the [VMA counseling website](#).

Financial Aid Information:

All course work, both upper and lower division, currently costs \$46 per unit and upper-division course work will cost an additional \$84 per unit, with an estimated total cost of about \$10,000 for the four-year program. Additional fees include health services, parking and student center. There will also be costs associated with books and materials.

The California College Promise Grant (CCPG – formerly BOG Fee Waiver) will cover the standard \$46/unit fees. Cal-Grant funds may be available to cover the \$84 per unit depending upon individual student eligibility. Cal Grants will be available to students in the bachelor's program that meet eligibility requirements. Moorpark College does not participate in the Parent PLUS loan program.

Laboratory Facilities:

Laboratory activities at Moorpark College will be conducted exclusively in a dedicated teaching laboratory space. The laboratory classroom can accommodate 24 students. The lab also includes a gowning area with more than 30 lab coats and eye protection.

B.S. in Biomanufacturing Upper–Division Coursework

A.S. in Biotechnology or equivalent (60 + College Units & Prerequisites complete)		
2.0 GPA		
B.S. in Biomanufacturing Curriculum		
Fall – Semester #1		
BIOT M301	Biomanufacturing Process Sciences and Engineering Principles	5
BIOT M307	Advanced Topics in Quality Assurance and Regulatory Affairs	4
ENGL M300	Technical Writing	3
GEN ED	GE Certification Courses as needed	
	Units/Hours	12
Spring – Semester #2		
BIOT M302	Design of Experiments for Biomanufacturing	4
BIOT M303	Design of Biomanufacturing Facilities, Critical Utilities, Processes, and Equipment	4
BIOT M304	Bioprocess Monitoring and Control	5
GEN ED	GE Certification Courses as needed	
	Units/Hours	13
Fall – Semester #3		
BIOT M405	Cell and Gene Therapy Manufacturing Technologies	3
BIOT M406	Supply Chain and Enterprise Resource Planning	3
BIOT M408	Six Sigma and Lean Manufacturing	4
PHIL M400	Ethics in the Age of Emerging Technology	3
GEN ED	GE Certification Courses as needed	
	Units/Hours	13
Spring – Semester #4		
BIOT M409	Methods in Quality Improvements, Investigations, and Audits	4
BIOT M410	Emerging Trends in Biomanufacturing Quality	3
BUS M400	Project Management	3
GEN ED	GE Certification Courses as needed	
	Units/Hours	10
	Total Upper – Division Units/Hours	48

B.S. in Biomanufacturing Sample Schedule

SEMESTER 1 – FALL 2024

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00 AM – 9:00 AM					
9:00 AM – 10:00 AM		BIOT 307 Quality Assurance & Regulations 9am – 10:50am		BIOT 307 Quality Assurance & Regulations 9am – 10:50am	
10:00 AM – 11:00 AM					
11:00 AM – 12:00 PM		BIOT 301 Biomanufacturing Processing Science 11am – 12:15pm		BIOT 301 Biomanufacturing Processing Science 11am – 12:15pm	
12:00 PM – 1:00 PM					
1:00 PM – 2:00 PM		BIOT 301L Lab 1pm – 3:50pm		BIOT 301L Lab 1pm – 3:50pm	
2:00 PM – 3:00 PM					
3:00 PM – 4:00 PM					
4:00 PM – 5:00 PM					
ONLINE	ENGL 300 Technical Writing <i>Online</i>				

SEMESTER 2 – SPRING 2025

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00 AM – 9:00 AM	BIOT 304 Bioprocessing, Monitoring & Control 8am – 9:15am	BIOT 302 Design of Experiments 8am – 9:15am	BIOT 304 Bioprocessing, Monitoring & Control 8am – 9:15am	BIOT 302 Design of Experiments 8am – 9:15am	
9:00 AM – 10:00 AM	BIOT 304L Lab 9:30am – 12:20pm	BIOT 302L Lab 9:30am – 12:20pm	BIOT 304L Lab 9:30am – 12:20pm		
10:00 AM – 11:00 AM					
11:00 AM – 12:00 PM					
12:00 PM – 1:00 PM					
1:00 PM – 2:00 PM		BIOT 303 Design of Facilities, Utilities, & Equipment 1pm – 2:50pm		BIOT 303 Design of Facilities, Utilities, & Equipment 1pm – 2:50pm	
2:00 PM – 3:00 PM					
3:00 PM – 4:00 PM					

Semester 3

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00 AM – 9:00 AM					
9:00 AM – 10:00 AM	BIOT 408 Six Sigma & Lean Manufacturing 9:00am – 10:15am		BIOT 408 Six Sigma & Lean Manufacturing 9:00am – 10:15am		
10:00 AM – 11:00 AM					
11:00 AM – 12:00 PM	BIOT 405 Cell & Gene Therapy 11am – 12:15pm		BIOT 405 Cell & Gene Therapy 11am – 12:15pm		
12:00 PM – 1:00 PM					
1:00 PM – 2:00 PM					
2:00 PM – 3:00 PM					
3:00 PM – 4:00 PM					
4:00 PM – 5:00 PM		BIOT 406 Supply Chain & Enterprise Resource Planning 4pm – 5:15pm		BIOT 406 Supply Chain & Enterprise Resource Planning 4pm – 5:15pm	
ONLINE	PHIL 400 Ethics in Emerging Technologies <i>Online</i>				

SEMESTER 4

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
12:00 PM – 1:00 PM					
1:00 PM – 2:00 PM	BIOT 409 Methods in Quality Improvement 1pm – 2:15pm		BIOT 409 Methods in Quality Improvement 1pm – 2:15pm		
2:00 PM – 3:00 PM			BIOT 409L Lab 2:30pm – 5:20pm		
3:00 PM – 4:00 PM		BIOT 410 Emerging Trends 1pm – 2:15pm		BIOT 410 Emerging Trends 1pm – 2:15pm	
4:00 PM – 5:00 PM					
ONLINE	BUS 400 Project Management <i>Online</i>				

Section 3: General Information, Requirements and Resources

Faculty and Staff

The faculty and staff are here to help you succeed in the program. The bachelor's degree program has a dedicated student Success team. Please reach out with questions or concerns anytime throughout the program. Contact information can be found below.

Dean of Student Learning for Life and Health Sciences

Carol Higashida EdD, MN, RN, CNS chigashida@vcccd.edu

Director, Bachelor Degree Program

Mari Estrada-Gonzalez, Ph.D.

mcbdp@vcccd.edu

Program Website: <http://www.MoorparkCollege.edu/BDP>

Counselor for Bachelor Degree Program

Fidel Gonzalez

fgonzalez@vcccd.edu

MCounseling@vcccd.edu

Financial Aid Specialist

Rosleen Aurora

raurora@vcccd.edu

Admissions & Records

Dave Anter, Registrar

danter@vcccd.edu

Kathleen Downes, Assistant Registrar

kdownes@vcccd.edu

Biotechnology Chair & Faculty

Audrey Chen, Ph.D., Department Chair

achen@vcccd.edu

Subhash Karkare, Ph.D., Lead Faculty

skarkare@vcccd.edu

Hovik Gasparyan, Ph.D.

hgasparyan@vcccd.edu

Skills Lab

Mary Swenson

mswenson@vcccd.edu

General Education Chairs & Faculty

Beth Gillis, English Department Chair

egillis@vcccd.edu

Ruth Barrington, Business Department Chair

rbarrington@vcccd.edu

Matthew Morgan, Philosophy Program Chair

mmorgan@vcccd.edu

Adam Blazej, Philosophy Faculty

ablazej@vcccd.edu

Kevin Rickard, Project Management
Faculty

krickard@vcccd.edu

Diana Shamiryan, English Faculty

dshamiryan@vcccd.edu

Career Services

Kirsten Vassie, Placement Project Specialist

Kirsten_vassie1@vcccd.edu

Lizette Lomeli, Placement Project Specialist/Job Developer

Lizette_lomeli1@vcccd.edu

Tutoring and Learning Center

Crystal Salas, Tutorial Services Specialist

Crystal_salas1@vcccd.edu

Student Activities

Kristen Robinson, Ed.D., Student Activities Specialist

krobinson@vcccd.edu

STEM Impacto

Laura Maldonado, Program Coordinator

Laura_maldonado1@vcccd.edu

Campus Child Care

Johanna Pimental, Child Development Center Supervisor

johanna_pimental1@vcccd.edu

Student Health Center & Mental Health Team

MCSHC@vcccd.edu

General Information

Course Registration

Students are required to register for upper-division coursework for the upcoming semester. It is the student's responsibility to register for these classes in a timely fashion prior to the next semester. Students should notify the Bachelor Degree Program Success Team immediately if they encounter issues when registering for coursework.

Students are required to take all coursework assigned for their cohort each semester. Part-time enrollment is not possible. A detailed course schedule is provided as part of this handbook to support students to adjust their work/family schedules to be present for all class meetings.

For students concerned regarding drops for non-payment of course fees, please reach out to the Cashier's office at Moorpark College. They are happy to work with you on a payment plan.

Priority Registration for Special Populations

Students who meet the following designations are eligible to receive priority registration. If you believe you meet the criteria review the following webpage for ensuring the priority registration is applied to your account: <https://www.vcccd.edu/students/registration-priorities>

Although the Bachelor Degree Program guarantees registration in upper division courses that are part of the program, lower division courses are available to all Moorpark College students. Priority registration is helpful for Bachelor Degree students who need to complete lower division courses as part of conditional admittance or general education certification requirements.

Eligible Populations for Priority Registration:

- CalWorks
- EAC/ACCESS (DSP&S)
- EOPS
- Foster Youth/former Foster Youth as established by statute*
- Homeless Youth as established by statute
- Military Veterans/active-duty personnel
- Student Parents

Additional Requirements:

- Continuing students must be in good academic standing**
- New students must complete orientation, assessment, and an educational plan

Notes:

Foster Youth students are exempt from the unit and academic standards requirement.

First Class Meeting Attendance

Students who do not attend the first class meeting and have not notified the Department/Instructor may be dropped from the class.

Changes in Student Information

Students will be added to the departmental listserv and will receive notifications about the program, college services, and employment/internship opportunities. It is important that the student notify the department promptly of any changes in name, address, telephone numbers, or emergency contact person(s). In cases of emergency, illness, or scheduling change, it is critical that the department be able to reach all students.

Accessibility Coordination Center, and Educational Support Services (ACCESS)

ACCESS supports students with verified disabilities by determining and providing reasonable accommodations, auxiliary aids, and support services.

Any Moorpark College student with a disability that has a negative impact on his/her educational achievement may be eligible, and is encouraged to apply for ACCESS services. The disability may be a visible one, such as vision, hearing, mobility or it may be an invisible disability such as learning disability, a speech or psychological disorder. In order for ACCESS to authorize services, an appropriate professional must verify the disability in writing. This could be a letter from your physician or a psychologist's report.

In addition, any Moorpark College student who suspects they might have a disability that has never been previously assessed may request an appointment with an ACCESS Specialist to discuss the possibility of further evaluation.

Accommodations

ACCESS coordinates services and accommodations required by eligible students to ensure that full accessibility to the campus and curriculum is achieved. Accommodations are individually determined by an interactive process between the student and the ACCESS Specialist. Accommodations are based on the individual's educational limitations and professional documentation.

Accommodations do not guarantee success, only an equal opportunity to succeed. Below are examples of frequently used accommodations that remove barriers for students. This list is *not* comprehensive.

- **Alternate Media** (E-text version of textbooks, Braille, enlarged text)
- **Adaptive Furniture** (Adjustable height desks)
- **Assistive Equipment** (Assistive listening devices, recorders)

- **Learning Skills Classes** (For math skills, writing skills & study strategies)
- **Note-taking Services**
- **Registration Assistance** (Priority registration, course load adjustments)
- **Sign Language Interpreters** (American Sign Language interpreters)
- **Specialized Academic and Disability Counseling**
- **Test Taking Accommodations** (Extra time on tests, reading software)

For more information visit:

<https://www.moorparkcollege.edu/departments/student-services/access/services>

Internships, Apprenticeships, Mentoring and Job Placement

The Moorpark College Career & Technical Education program works closely with faculty and industry partners to offer internships, apprenticeships, mentorships, job placements, and opportunities for training and networking. These opportunities will be shared with students as they become available.

Bachelor Degree Program students are eligible to apply for internship positions (or jobs) at local companies. Students may contact the Career Center for more information and to enroll in courses for credit. Faculty in the biotechnology program can serve as mentors for these courses with prior notice from the student.

Child Development Center

Moorpark College has a preschool program at the Child Development Center that is available for children of the community, registered students, faculty, and staff. This facility is located in the Child Development Center Building on campus. The Child Development Center (CDC) offers a comprehensive half day and full day childcare program for pre-schoolers and toddlers. This program enhances the cognitive, social, emotional and physical development of children through age appropriate educational and enrichment programs including science, writing, and the arts. To learn more about the center and tuition scholarships available visit:

<https://www.moorparkcollege.edu/departments/student-services/child-development-center>

Student Supervision

No student is allowed in the biotechnology laboratory without an instructor present in the facility for supervision.

Student Accident/Injury

Any accident or injury involving a student that occurs in connection with the college's regular curriculum or in a biotechnology laboratory must be reported immediately to the instructor, regardless of the perceived severity. Reportable incidents may include, but are not limited to, cuts and scrapes, burns, chemical exposure, and contamination.

Section 4: Student Policies

Student Conduct, Complaint & Grievances

Moorpark College has a “*students first*” mission in all facets of the student experience. Our goal is to provide wrap-around support. The following webpage is designed as a guide for issues students experience that may require additional help: <https://www.moorparkcollege.edu/student-conduct-complaint-grievances>

Student Code of Conduct

To ensure a safe, respectful, and productive learning environment, all students must adhere to the Student Code of Conduct. Student conduct that negatively impacts the ability of students to meet their educational goals or employees to carry out their professional responsibilities will be subject to the terms outlined in the code. Refer to the Student Code of Conduct for detailed information on these standards and procedures. To review the Student Code of Conduct visit: <https://www.moorparkcollege.edu/student-code-of-conduct>

Academic Dishonesty

Moorpark College takes academic honesty very seriously. Instructors, accordingly, have the responsibility and authority for dealing with instances of cheating or plagiarism that may occur in their classes. Such activities could include stealing tests, using “cheat sheets,” using unauthorized technology, copying off another’s test, or turning in someone else’s work as his/her own. Instructors have the responsibility to report instances of plagiarism or cheating to the Dean of Student Life. Academic dishonesty, in any form, is a violation of the Moorpark College Student Code of Conduct as outlined in the Student Rights and Responsibilities section and, as such, is subject to investigation, charges of misconduct, and disciplinary consequences.

It is the belief at Moorpark College that students share a responsibility with their instructors for assuring that their education is honestly attained. In keeping with this belief, every instructor has the responsibility and authority to deal with any instances of plagiarism, cheating and/or fabrication that occur in the classroom. Examples of academic dishonesty include (but are not limited to) the following:

Plagiarism

Plagiarism is the act of presenting someone else's work as one's own. Examples include:

- Copying and pasting text from websites or other electronic sources and presenting it in an assignment as your own original work
- Copying and pasting text from printed sources (including books, magazines, encyclopedias or newspapers) and presenting it in an assignment as your own work
- Using another student's work and claiming it as your own original work (even if you have the permission of the other student).

Cheating

Cheating is the act of pretending (or helping others to pretend) to have mastered course material through misrepresentation. Examples include:

- Copying in whole or in part from another student's test or paper
- Allowing another student to copy from your test or assignment
- Using the textbook, course handouts, or notes during a test without instructor permission
- Stealing, buying or otherwise obtaining all or part of a test before it is administered
- Selling or giving away all or part of a test before it is administered; having someone else attend a course or take a test in your place
- Attending a course or taking a test for someone else
- Failing to follow test-taking procedures, including talking during the test, ignoring starting and stopping times, or other disruptive activity
- Using artificial intelligence (AI) to generate content and presenting it as your own.

Fabrication

Fabrication is the intentional use of invent information. Examples include:

- Signing a roll sheet for another student
- Giving false information to college personnel
- Answering verbal or written questions in an untruthful manner
- Inventing data or sources of information for research papers or other assignments; this includes the use of false information provided by artificial intelligence (AI) generators.

As members of the Moorpark College learning community, students are not to engage in any form of academic dishonesty. Any act of academic dishonesty will be considered a very serious offense that is subject to disciplinary action.