Biotechnology A.S. Degree - career

FULL TIME

This program roadmap represents one possible pathway to complete the program. **Please see a counselor** to create an education plan that is customized to meet your needs. This roadmap is not a guarantee of course availability or financial aid applicability.

Catalog: 2026-27

GE Pattern: local AA/AS

Total Units: 60

Start Term: Fall

First Year

Semester 1 (Fall) — 14 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	BIOT 307 Biotechnology and Society	2		
RE	CHEM 309 Integrated General, Organic, and Biological Chemistry	5		L5
Req	ENGL C1000 College Composition	3		L1A
Req	STAT C1000 Introduction to Probability and Statistics	4		L2

Semester 2 (Spring) — 16 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
RE	BIOL 440 General Microbiology	4	(see below)	
RE	ENGL C1001 Advanced Composition and Critical Thinking	3	ENGL C1000	L1B
GE	any Area L3 (Arts & Humanities) course	3		L3
GE	any Area L4 (Social & Behavioral Sciences) course	3		L4
Elec	any elective course	3		

BIOL 440 prerequisite: CHEM 305, 309, or 400

Second Year

Semester 3 (Fall) — 15 Units

CAREER PATH

Career Options:

This associate degree opens the door for entry-level work in the bioscience industry in the areas of research and development, production, clinical testing, and diagnostic work, but many employers require a bachelor's degree or higher. Potential employers include biotechnology and pharmaceutical companies, as well as laboratories in hospitals, government and universities.

Advising Notes:

- This map is designed for students preparing for direct employment. There is another roadmap for students preparing to transfer.
- This map is designed for students who are able to take 12 units or more each semester, which is considered a full-time load. It shows one possible way to finish the program as quickly as possible. See a counselor to adjust the coursework to meet your specific needs.
- BIOL 400 or BIOL 442 can be used in place of BIOL 440, but have different prerequisites.
- This degree can be completed using either the local AA/AS general education (GE) pattern or the Cal-GETC transfer GE pattern. See a counselor to determine which pattern is best

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	**BIOT 301** Biotechnology and Human Health	3	(see below)	
GE	**any Area L6 (Ethnic Studies) course**	3		L6
GE	**any Area L7A (Physical Education) course**	1		L7A
Elec	**any elective course**	3		
Elec	**any elective course**	3		
Elec	**any elective course**	2		

BIOT 301 prerequisite: BIOL C1000, BIOL 310, BIOL 400, BIOL 440, BIOL 442, or BIOT 307

Semester 4 (Spring) 15 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
RE	**BIOT 305** Introduction to Bioinformatics	1	(see below)	
Req	**BIOT 311** Biotechnology Laboratory Methods - Molecular Techniques	2	(see below)	
Req	**BIOT 312** Biotechnology Laboratory Methods - Microbial and Cell Culture Techniques	2	(see below)	
GE	**BIOT 498**[1] Work Experience in Biotechnology	2		L7B
Elec	**any elective course**	3		
Elec	**any elective course**	3		
Elec	**any elective course**	2		

BIOT 305 prerequisite: BIOL C1000, BIOL 310, BIOL 400, BIOL 440, BIOL 442, BIOT 301, or BIOT 307

BIOT 311/312 prerequisite: BIOL 300, BIOL C1000, BIOL 310, BIOL 400, BIOL 440, BIOL 442, or BIOT 307

[1] Only 1 unit of BIOT 498 is required in the major, but 2 units are required for GE area L7B.

EXPLANATION OF CATEGORIES		
Req	Required Core	A course that is required for this program
RE	Restricted Elective	A course selected from a list of elective courses specified for this program in the course list in the catalog, which can be replaced with another course from the same list

for you based on your academic goals.

- **Elective Courses:** any elective courses numbered 100-499, or having a 4-digit number starting with C.
- This program can be started in the spring as well. See a counselor to adjust the coursework.

Scheduling Notes:

- BIOT 301 is offered in the fall.
- BIOT 305 is offered as a 2nd-8-week class in the spring.
- BIOT 307 is offered as a 1st-8-week class in the fall.
- BIOT 311 is offered as a 1st-8-week class in the spring.
- BIOT 312 is offered as a 2nd-8-week class in the spring.

Other Notes:

- BIOT 498 is an internship, which must be set up prior to the start of the semester.
- An internship (BIOT 498) is highly recommended as it opens up potential employment opportunities. Students can earn between 0.5 – 4.0 units for related paid or unpaid work experience including volunteer and internship positions through BIOT 498. This course also works toward satisfying GE Area L7B. See the Work Experience website for more information.

EXPLANATION OF CATEGORIES		
GE	General Education	A course that fulfills a specific general education requirement for a degree, which can be replaced with another course that meets the same requirement
Elec	Degree Elective	A degree-applicable course that is part of a degree roadmap to ensure that there is a total of at least 60 units, which is a requirement for an associate degree

Published July 07, 2026