



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: 2025-26

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 Academic Reading and Writing	3		L1A
Req	STAT C1000 Introduction to 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 Critical Thinking and Writing	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

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		

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 roadmap is designed for students preparing for direct employment. There is another roadmap for students preparing to transfer.
- 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-G ETC transfer GE pattern. See a counselor to determine which pattern is best 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 301 prerequisite: BIOL 303, 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 498¹ 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 303, BIOL 310, BIOL 400, BIOL 440, BIOL 442, BIOT 301, or BIOT 307

BIOT 311/312 prerequisite: BIOL 300, BIOL 303, 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.

- 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

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
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