



**SUMMER
SPRINGBOARD**
Look Inward. Go Upward.

BIOTECHNOLOGY INFOSHEET

**New student admissions for
Summer 2026 are open**

2-Week Course

This is a two-week program where you'll focus on one course for the entire duration.



Academic Program Overview

UCSD + MIT Campus*

Are you interested in medicine, science, and technology? Is your goal to create a life-saving drug? This is a unique opportunity for high school students to gain real exposure and hands-on experience in a biotechnology lab using state-of-the-art equipment. The goal of this program is to provide students with intensive laboratory experience and a solid understanding of fundamental chemical processes common in prokaryotic and eukaryotic biology, as well as classical and molecular genetics, with an emphasis on gene expression and genetic engineering. The biotechnology industry draws from a variety of specialties, including microbiology, genetics, biochemistry, and information technology, all of which have a significant impact. In addition to lab work, students will have the opportunity to visit biotech incubators and hear from industry professionals.

Berkeley

Students in Biotech in Berkeley will explore environmental biotechnology and the discovery of antibiotics from soil microbes. In this course, students will learn how to isolate microbes from soil and test whether they can produce the next generation of antibiotics. They will experience a fun introduction to microbiology, the scientific process, and modern laboratory techniques. Students will also explore the CRISPR Revolution: From Discovery to Application. They will retrace the steps of the scientists who discovered and developed this groundbreaking technology used to modify DNA in genomes. Students will work to understand the fundamentals of CRISPR engineering at a molecular level and apply it through hands-on lab activities. They will perform sample collection, analyze data, and work with fluorescent proteins using sophisticated laboratory tools as part of the scientific process.

Program Highlights

UCSD + MIT Campus*

- Work alongside scientists discovering treatments for various diseases.
- Start with molecule design and compound creation, and follow the process to the point of in vitro biological activity.
- Take part in a trypsin purification program as well as grow a protein in e-coli
- Learn how to harvest and isolate a protein, and see how it reacts to various compounds in an advanced research laboratory.
- Create a molecule, and test its biological results practicing the scientific method from hypothesis to conclusion.

Berkeley

- Uncover the secrets hidden beneath the soil under our feet and explore the study of microbiology.
- Learn how to isolate and test for the potential to yield the next generation of antibiotics.
- Discover the incredible power to modify DNA within genomes and witness its transformational impact.
- Utilize sophisticated lab tools, from pipettes to gene-editing technology, as you dive deep into the art of scientific discovery.

Instructors

UCSD - Dr. Vicki Nienaber-Meadows, Ph.D.

Dr. Nienaber has over 30 years' experience at large companies, mid-sized biotech, and her own biotech, Zenobia Therapeutics. Throughout Dr. Nienaber's career she has been both an early adopter as well as an inventor of instrumentation and technology directed towards early-stage drug discovery. She is best known as lead inventor of the crystallographic fragment-based lead discovery method that is still used worldwide to identify clinical candidates and marketed products. She was also the technical lead for invention of the first crystal mounting and alignment robot, ACTORTM, which was recognized with an R & D top 100 innovations award. The robot is now sold commercially by Rigaku. Dr. Nienaber has overseen large multinational drug discovery programs, early-stage drug discovery pipelines and build platforms consisting of robotics, procedures, and relational databases and two companies. She has been awarded grants from the Michael J Fox Foundation, California Institute for Regenerative Medicine, National Institutes of Health and National Science Foundation.

Berkeley - Luis Valentin-Alvarado, PhD

Dr. Valentin-Alvarado holds his PhD in microbiology from UC Berkeley. His doctoral research at Berkeley focused on reconstructing genomes from natural ecosystems in an effort to uncover insights into the metabolic capabilities of understudied microbes. He is currently a microbial genomics and structural biology research fellow at Monash University in Australia, where he is working with a group that is pioneering the exploration of CRISPR-Cas and other innovative immune systems. His role in this research involves the strategic integration of laboratory skills and ecosystem-scale genomics to explore the untapped potential of bacteria, archaea, and mobile genetic elements. Prior to this, Luis was a graduate researcher at the Innovative Genomics Institute, a research assistant at MIT, and worked as a research assistant at the Woods Hole Oceanographic Institution at the Saito Lab.

MIT Campus - LabCentral

Summer Springboard is partnering with LabCentral, the premier biotech incubator in Kendall Square, Cambridge, to deliver the Biotechnology course. Students work with professionals in the field and learn in a lab for class every day. The daily lab experience will give students the opportunity to be surrounded by scientists, startups, and discoveries defining the future of medicine. The course is designed by professionals with deep roots in healthcare, life sciences, and education, and every activity connects classroom learning to the current field work.



Course Structure

There are nine 3-hour class sessions over the two-week course. During week one, students have class from 9am-12pm Monday - Friday. During week two, students have class from 9am-12pm Monday through Thursday. Wednesday afternoons of each week are dedicated to students' course-specific academic excursion, guest speaker, or activity.



Typical Schedule

8AM	Breakfast	
9AM	Academic Course / Commuter Student Arrival	
12PM	Lunch	
1:30PM	Academic Excursions or Recreational Activity	
3:30PM	College Readiness Workshop or True You	
5PM- 6:30PM	Commuter Student Departure	
6PM	Dinner	
7PM	Clubs	
10:30PM	Night Checks	

Tuition Information:

Residential Students:

- **Includes:** all meals, lodging, excursions, academic course, weekend excursions
- **Excludes:** optional airport pickup and drop off service (available for an additional fee)
- **Price:** See prices under 2026 dates

Commuter Students:

- **Includes:** lunch, academic course, excursions, programming from 9am to 5pm, Monday-Friday
- **Excludes:** lodging, breakfast, dinner, weekend excursions
 - Weekend excursions can be added on for \$125 per day
- **Prices**
 - **UCSD + Berkeley:** \$3,298
 - **MIT Campus*:** \$3,498

Supplements:

- **Application fee:** Starting at \$99 (mandatory, non-refundable)
- **Supplies Supplement:** \$250 (mandatory for Biotechnology students)
- **Tuition Protection Plan:** Allows for cancellation for any reason up until the day of the program. Click [here](#) for more info.

* To maximize the hands-on experience of this academic course (9am – noon), it will be held off the campus of MIT, in the Kendall Square, Cambridge, MA area. Located next to the campus of MIT, Kendall Square is widely recognized as one of the world's leading hubs for technology, research and innovation.

Summer Springboard programs are not run by our campus partners (with the exception of Cal Poly, University of Washington Foster School of Business, and NYSID which are run in partnership with SSB). Universities and their affiliated departments and partners do not control and are not responsible or liable in any manner for any part of the Summer Springboard program.

2026 Dates

Berkeley (\$5,998)

- Session 2: June 21 - July 03
- Session 4: July 05 - July 17
- Session 6: July 19 - July 31

UC San Diego (\$5,998)

- Session 1: June 28 - July 10
- Session 2: July 12 - July 24
- Session 3: July 26 - August 7

MIT Campus (\$6,798)

- Session 1: June 28 - July 10
- Session 2: July 12 - July 24
- Session 3: July 26 - August 7



Excursions

Students do their daily class directly inside a biotechnology lab. In San Diego, past summer's visits have been to J Labs, Calibr, Bio Tech & Beyond, and other incubators in the San Diego area.

Students in Berkeley do their daily work inside a Berkeley lab and have visited leading biotech companies such as, Thermo Fisher Scientific, as well as leading local research labs like the Innovative Genomics Institute (IGI).

Students in our program on the campus of MIT do their daily work inside LabCentral, a lab in Cambridge and have had special excursions with LabCentral faculty and in other sites in the Cambridge area.

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[More info on Unaccompanied Minor Service](#)

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