

# Cell and Gene Therapy Manufacturing Program

Gain fundamental knowledge and skills to advance your career or launch a new career in biomanufacturing—an in-demand industry with high income-earning potential and opportunities for upward mobility. Designed for biotech employees, clinical trials support staff and those interested in biotech careers, our unique *Cell and Gene Therapy Manufacturing Specialized Study* combines a thorough background in scientific principles and practical applications with hands-on training.

- **Specialized curriculum with broad application**—Our program emphasizes biomanufacturing skills and training in cell and gene therapy production, but has applications in a variety of biomanufacturing jobs and related industries
- **Real-world learning**—The program features current techniques, methods and applications used in industry and research settings.
- **Expert instruction**—Learn from faculty in the UC Davis Stem Cell Program and Solano Community College Industrial Biomanufacturing Program and industry experts.
- **Networking opportunities**—Connect with instructors and peers in the industry and gain exposure to careers in biomanufacturing from working professionals.
- **Convenient**—Asynchronous learning with remote access to instructors allows you to learn from anywhere and on your own schedule.
- **Flexible enrollment options**—Depending on your training needs, you can enroll in the online course bundle, the in-person bootcamp, or both!

## Program at a Glance

- Complete in as few as 2 months
- 4 online courses: \$2,000
- Bootcamp: \$4,000
- 4 online courses + Bootcamp: \$6,000



## Industry Facts

Job growth for Cell and Gene Therapy in California from 2020-2021 was **18%**.

The average salary for this same period was **\$88,300**.

—EMSI, 2021

For more information

[cpe.ucdavis.edu/cell-gene-specialization](https://cpe.ucdavis.edu/cell-gene-specialization)

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Continuing and Professional Education

# Cell and Gene Therapy Specialized Study Program

To earn your Specialized Study, complete the following five courses:

## Introduction to Cell and Gene Therapy

**Typically offered online: Fall, Winter Spring**

This first course serves as an introduction to cell and gene therapy manufacturing. It provides an overview of cell and gene therapies, how they are developed, applications for health and perspectives from industry professionals.

## Cell Biology and Culture Techniques

**Typically offered online: Fall, Winter, Spring**

Explore topics of cell biology and how cell biological methods can be applied to answer biological and medical questions. Learn various techniques for maintaining and manipulating cells in the lab and how these techniques may be used to gather data to test scientific hypotheses.

## Overview and Production of Gene Therapies

**Typically offered online: Fall, Winter Spring**

Gain an introduction to gene therapy concepts, production methods and practical/industrial applications with an emphasis on AAV as a platform for manufacturing. Topics include history and future directions of gene therapy, design considerations, methods for production, quality control, validation, and current concerns and regulatory considerations.

## Stem Cell and Gene Therapies: GMP Manufacturing and Associated Regulations

**Typically offered online: Fall, Winter Spring**

This final online course is an introduction to human stem cell biology with specific emphasis on adult, embryonic and induced pluripotent stem cells. Topics include how stem cells are isolated or generated, how they are cultured and how they are used for regenerative therapies. An introduction to CAR-T cells and their application will be provided. In addition, you will learn about Good Manufacturing Practice (GMP), how to manufacture human stem cells, and the regulatory environment required for manufacturing of cell and gene therapies.

## Cell and Gene Therapy Manufacturing Bootcamp

**Typically offered in person: Summer**

This bootcamp is a capstone experience following the four online courses. It is a five-day, hands-on training intensive designed to introduce you to the fundamental processes and techniques used in cell and gene therapy manufacturing. Lecture presentations will cover the workflow and major components in the production of gene and cell therapies, while the laboratory sessions will primarily teach the knowledge and skills required to manufacture autologous CAR-T cell therapies. You will be exposed to the entire end-to-end manufacturing workflow including upstream and downstream processes, cell culture expansion, quality control, and cold-chain solutions, and will gain vital hands-on training with industry standard equipment used in manufacturing for clinical trials and for FDA-approved therapies.

The Cell and Gene Therapy market is expected to grow 39% by 2027.

Business Wire, 2022



### FOR MORE INFORMATION

Talk to an enrollment coach!

**Kristy Craig**

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**SCHEDULE A CONSULTATION**

[calendly.com/knrcraig](https://calendly.com/knrcraig)

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