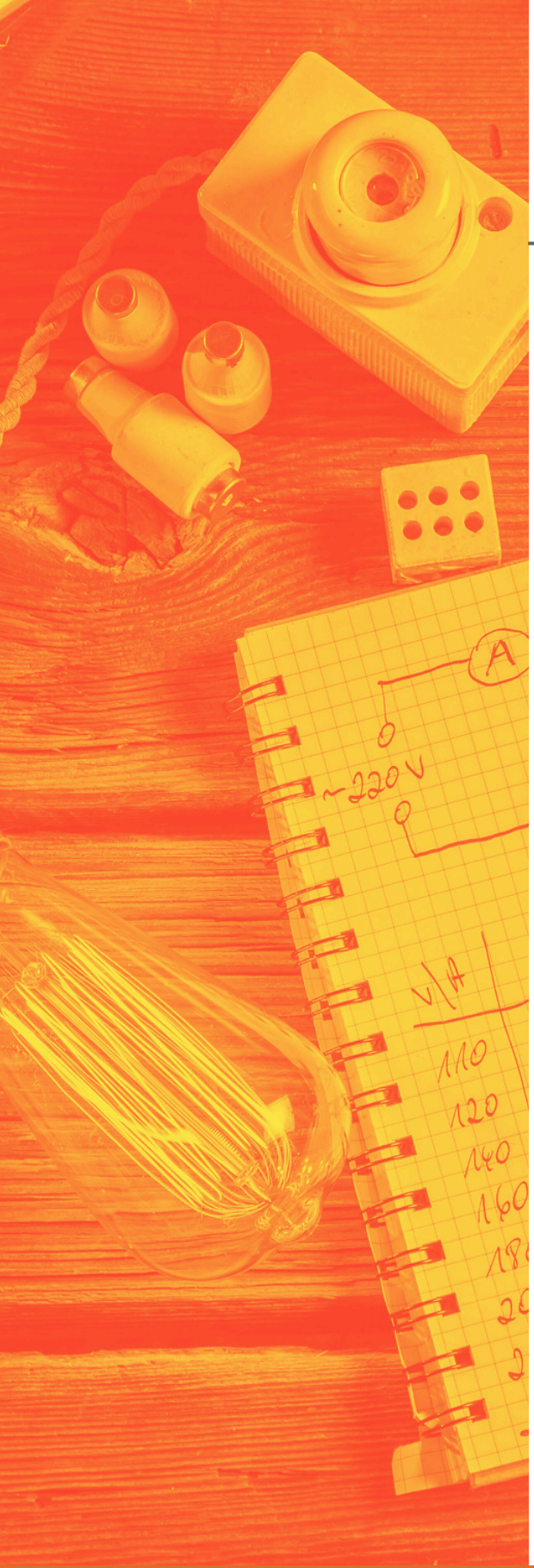
Perceiver

# Fall 2024 Program Catalog




# Perceiver

## Perceiver Education Research Programs

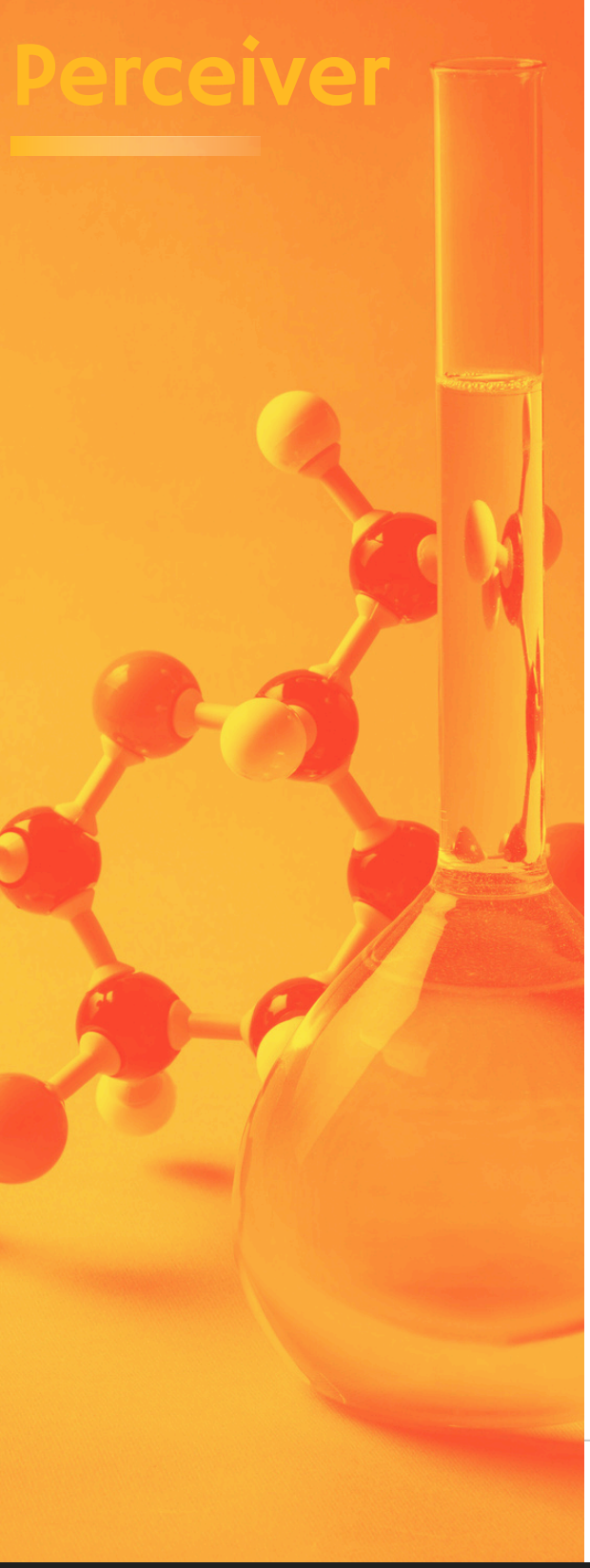
At Perceiver, we offer a distinctive suite of high school research programs, directly led by esteemed professors from top universities. Our programs provide students with unparalleled opportunities to engage in real-world research, gain hands-on experience, and receive personalized mentorship from experts in their fields.

## Rare College-Level Experiences

- **Professor-Led Research:** Engage in projects guided by university professors, gaining college-level insights and experiences.
- **Real-World Applications:** Tackle real-world challenges, building practical skills that enhance college applications.
- **Small Group Sizes:** Limited enrollment ensures personalized attention and meaningful professor-student interactions.
- **College Pathway:** Potential for professor recommendations, boosting your college admissions profile.
- **Program Variety:** Choose from foundational to advanced programs, with options for research papers or final presentations.
- **Student Support:** Perceiver provides the guidance and resources needed for student success.

Perceiver's mission is to develop future leaders, unlocking their full potential by providing innovative impactful platforms. Available year-round, our research programs offer real-world experiences and the unique chance to work with university professors on leading STEM research topics.

For further details about our programs, please contact Perceiver Education at:
**admissions@usperceiver.com | +1 (909) 248-3024**




# 2024 FALL RESEARCH CATALOG

- **Robotics Engineering Research Program (Eng101)**
- **Accelerated Robotics Systems Research (Eng201)**
- **3D Printing Engineering Research Program (Eng102)**
- **Accelerated 3D Printing Electronics Design (Eng202)**
- **Magnet-Based Mechanical Engineering (Eng103)**
- **AI-Driven Data Analysis Research in Economics (AI104)**
- **Accelerated AI-Driven Data Analysis (AI204)**
- **Bio/Chem Stem Cell Research in Medicine (Med105)**
- **Capstone Medical Stem Cell Research (Med203)**
- **Capstone Synthetic Biology Research (Bio204)**

**Contact admissions for 2024 Fall availability and schedule**

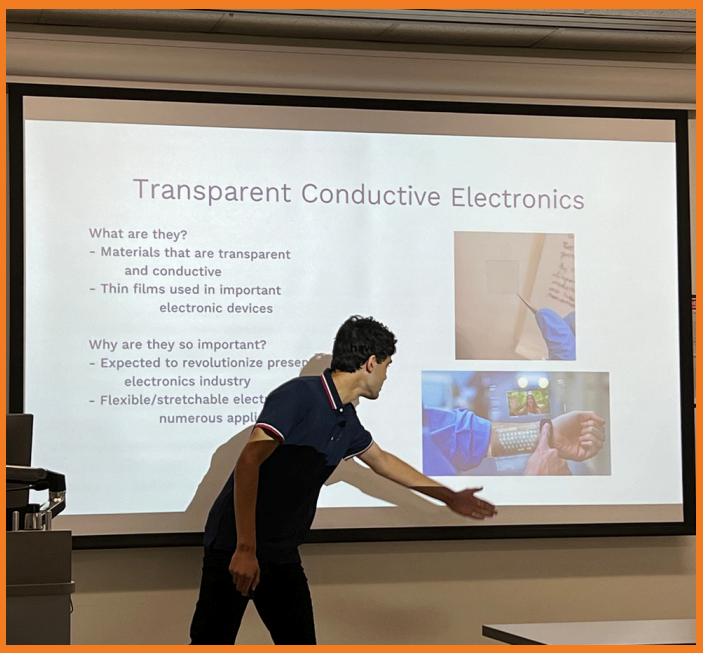
admissions@usperceiver.com | +1 (909) 248-3024

## 2024 Fall Program Dates

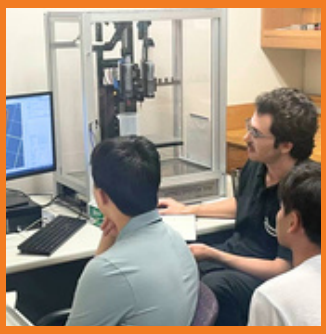
| Program Code | Program Start Week |
|---|---|
| Eng101, Eng201, Eng102, Eng103, AI104, Med203, Bio204 | September 21, 2024 |
| Eng202 | September 23, 2024 |
| Med105 | September 23, 2024 |
| AI204 | September 23, 2024 |
| Med203, Bio204 | Rolling start upon enrollment |

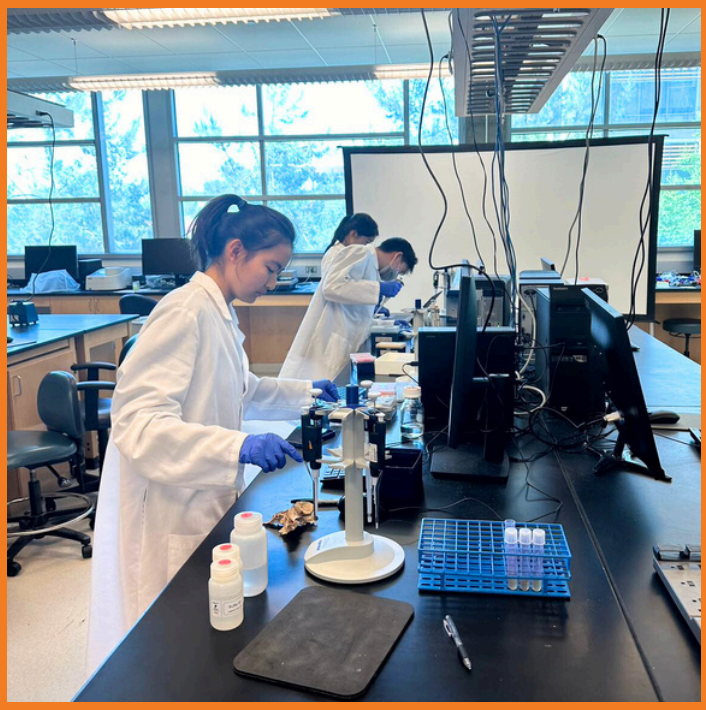
## Program Timeframe

| Program Code | Program Duration |
|---|---|
| Eng101, Eng201, Eng102, Eng103, AI104, Med203, Bio204 | 7 weeks |
| Eng202 | 12 weeks |
| Med105 | 8 weeks |
| AI204 | 8 weeks |
| Bio204 | 10 weeks |


Transparent Conductive Electronics
What are they?
- Materials that are transparent and conductive
- Thin films used in important electronic devices
Why are they so important?
- Expected to revolutionize prese electronics industry
- Flexible/stretchable elect numerous appli


SAFETY CAN






Perceiver
CERTIFICATE OF COMPLETION
Sara Wang
Snigdha Arun
Evan Huang
Tarva Chen


NEW YORK
EST. 1664
NYC

PROGRAM LIST

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# HIGH SCHOOL RESEARCH PROGRAMS

## USC ROBOTICS

## ROBOTICS ENGINEERING RESEARCH PROGRAM

LED BY:

**Professor of Aerospace and Mechanical Engineering, University of Southern California. Focused on dynamic robotics control and optimization, with innovative research on the ATRIAS and MIT Cheetah 3 robots.**

## RELATED FIELDS: MATH, CS, ENGINEERING

- Explore the fundamentals of robotics engineering through individual projects.
- Learn to design and implement control systems for robotic dynamics.
- Work on advanced robotics systems and apply modern engineering tools.
- Present your research findings in front of a panel of industry experts.

**ROBOTICS FUNDAMENTALS**

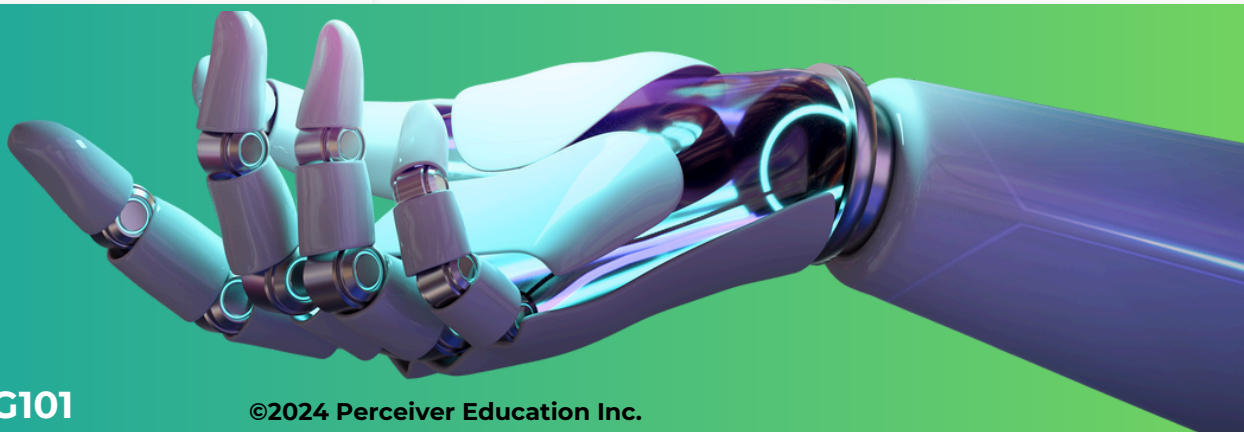
**START WEEK: SEPTEMBER 23, 2024**

**DURATION: 7 WEEKS**
**SESSIONS: 1X/WEEK**
**FORMAT: ONLINE**

**CONTROL SYSTEMS**

**COLLEGE-LEVEL RESEARCH**

**EXPERT PRESENTATIONS**



**COURSE CODE: ENG101**

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# HIGH SCHOOL RESEARCH PROGRAMS

## USC ROBOTICS

## ACCELERATED ROBOTICS SYSTEMS RESEARCH

LED BY:

**Professor of Aerospace and Mechanical Engineering, University of Southern California. Focused on dynamic robotics control and optimization, with innovative research on the ATRIAS and MIT Cheetah 3 robots.**

## RELATED FIELDS: MATH, PHYSICS, ENGINEERING

- Engage in accelerated research focused on robotics system development.
- Work with state-of-the-art robotic systems and advanced control algorithms.
- Learn to integrate robotics technologies in real-world applications.
- Showcase your accelerated research to a panel of experts.

ADVANCED ROBOTICS

START WEEK: SEPTEMBER 23, 2024

SYSTEM INTEGRATION

DURATION: 10 WEEKS
SESSIONS: 1/WEEK
FORMAT: HYBRID

ACCELERATED HANDS-ON RESEARCH

PUBLISH PAPER
PROFESSOR LOR

**COURSE CODE: ENG201**

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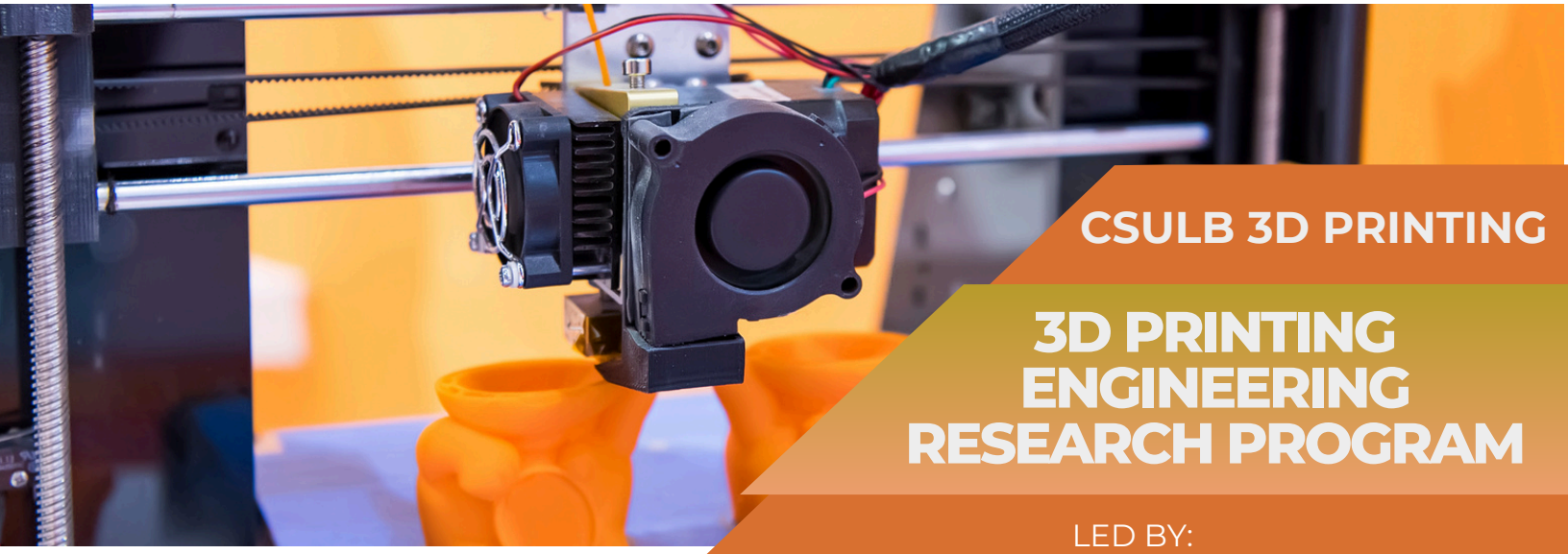
# HIGH SCHOOL RESEARCH PROGRAMS



## CSULB 3D PRINTING

## 3D PRINTING ENGINEERING RESEARCH PROGRAM

LED BY:

**Professor Bio: Professor at California State University, Long Beach, Department of Mechanical and Aerospace Engineering. Specializes in additive manufacturing and flexible electronics.**

## RELATED FIELDS: MATH, PHYSICS, ENGINEERING

- Hands-on experience with 3D printing technology and engineering design.
- Learn CAD modeling and FDM printing techniques for engineering applications.
- Develop and optimize 3D printed structures and devices.
- Present your research on 3D printing technology to industry experts.

**3D PRINTING TECHNOLOGY**

**START WEEK: SEPTEMBER 21, 2024**

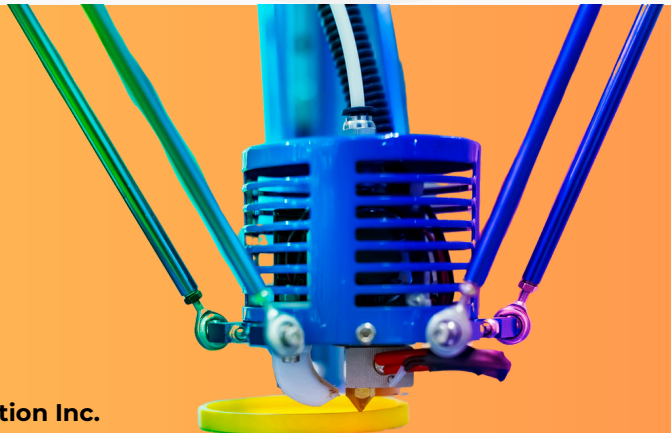
**DURATION: 7 WEEKS**
**SESSIONS: 1/WEEK**
**FORMAT: ONSITE**

**CAD MODELING**

**HANDS-ON ENGINEERING**

**RESEARCH PRESENTATIONS PROFESSOR LOR**

**COURSE CODE: ENG102**



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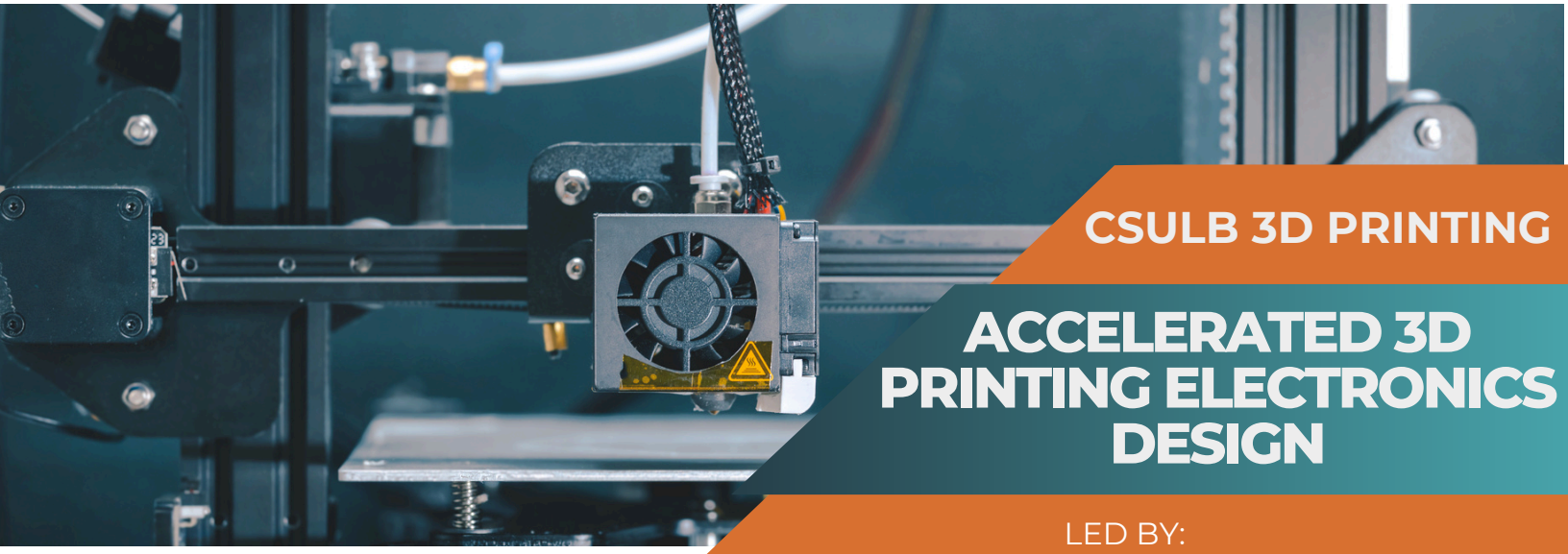
# HIGH SCHOOL RESEARCH PROGRAMS



## CSULB 3D PRINTING

## ACCELERATED 3D PRINTING ELECTRONICS DESIGN

LED BY:

**Professor at California State University, Long Beach, Department of Mechanical and Aerospace Engineering. Specializes in additive manufacturing and flexible electronics.**

## RELATED FIELDS: MATH, PHYSICS, ENGINEERING

- Accelerate your 3D printing skills for electronic device design.
- Master CAD modeling and FDM printing for advanced applications.
- Work on projects combining flexible electronics and additive manufacturing.
- Showcase your 3D printed electronics research to industry experts.

ACCELERATED ELECTRONICS

ADVANCED 3D PRINTING

START WEEK: SPRING 2025

DURATION: 12 WEEKS
SESSIONS: 1/WEEK
FORMAT: ONSITE

FLEXIBLE ELECTRONICS

PUBLISH PAPER
PROFESSOR LOR

COURSE CODE: ENG202

PROGRAM LIST

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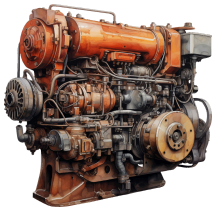
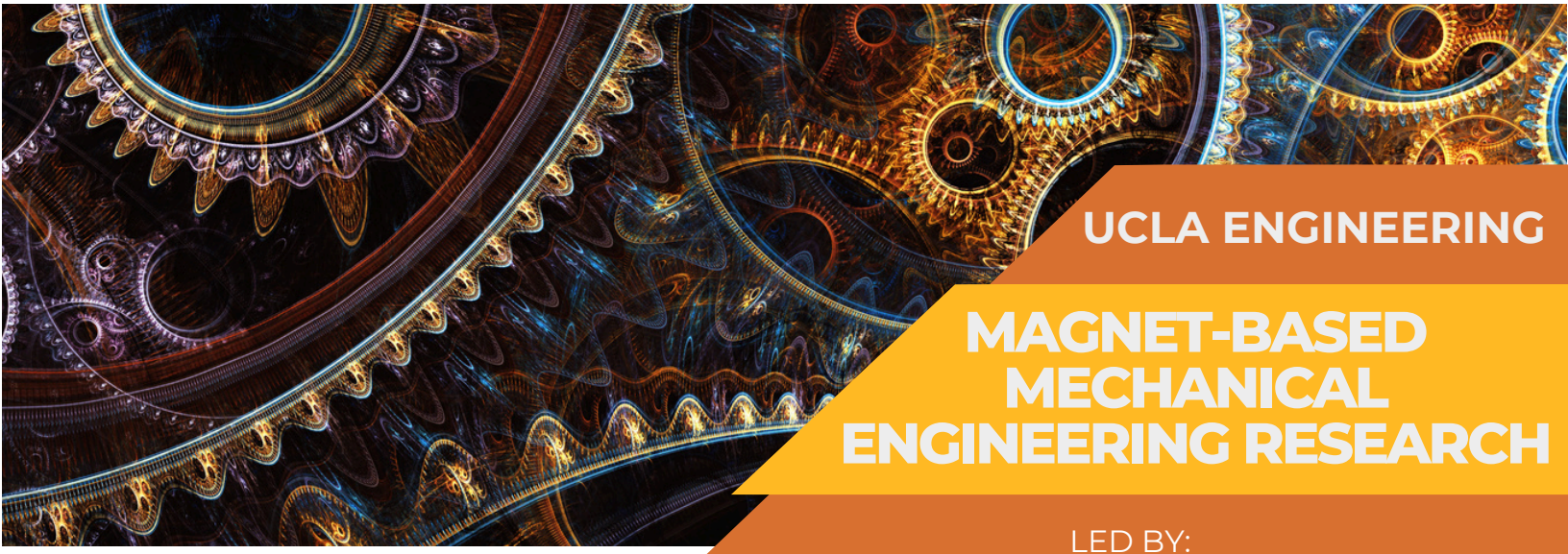
# HIGH SCHOOL RESEARCH PROGRAMS





## UCLA ENGINEERING

## MAGNET-BASED MECHANICAL ENGINEERING RESEARCH

LED BY:

**UCLA Professor, Department of Mechanical and Aerospace Engineering. Principal Investigator in The Nanosystems Engineering Research Center (ERC) for Translational Applications of Nanoscale Multiferroic Systems (TANMS).**

## RELATED FIELDS: MATH, PHYSICS, ENGINEERING

- Apply magnet-based technologies in mechanical engineering.
- Gain hands-on experience with magnetic cell capture and systems.
- Use advanced models and simulations for engineering.
- Present your research to expert panels.

MAGNETIC TECHNOLOGY

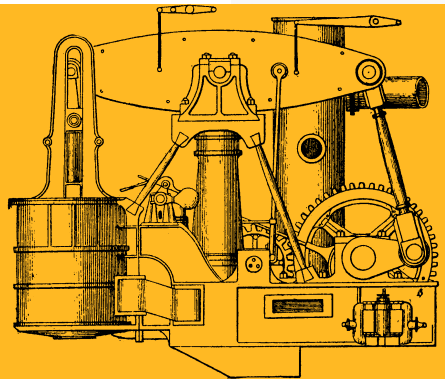
MECHANICAL SYSTEMS

START WEEK: OCTOBER 3, 2024

DURATION: 7 WEEKS
SESSIONS: 2/WEEK
FORMAT: HYBRID

HANDS-ON RESEARCH

EXPERT PRESENTATIONS



**COURSE CODE: ENG103**

PROGRAM LIST

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# HIGH SCHOOL RESEARCH PROGRAMS

## UCLA STATS

## AI-DRIVEN DATA ANALYSIS IN ECONOMICS

LED BY:

**UCLA Professor, Statistics and Data Science Department and Biostatistics Department. Recipient of the National Security Innovation Network Award, National Science Foundation Award, Amazon Faculty Award, UCLA Faculty Award.**

## RELATED FIELDS: MATH, CS, AI DATA ANALYSIS

- Focus on AI techniques for real-world economic data analysis.
- Apply advanced machine learning in economics.
- Work on research projects with cutting-edge AI tools.
- Present your findings to industry experts.

**AI IN ECONOMICS**

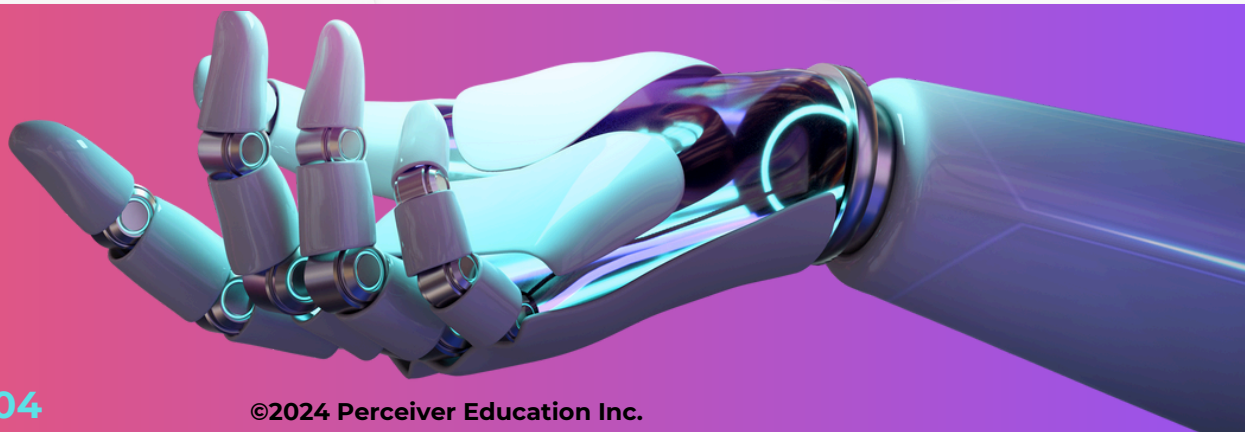
**START WEEK: SEPTEMBER 23, 2024**

**DURATION: 7 WEEKS**
**SESSIONS: 1/WEEK**
**FORMAT: ONLINE**

**MACHINE LEARNING**

**EXPERT PRESENTATIONS**

**INDIVIDUALIZED RESEARCH PROFESSOR LOR**



**COURSE CODE: AI104**

PROGRAM LIST

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# HIGH SCHOOL RESEARCH PROGRAMS


## UCLA STATS

# ACCELERATED AI-DRIVEN DATA ANALYSIS

LED BY:

**UCLA Professor, Statistics and Data Science Department and Biostatistics Department. Recipient of the National Security Innovation Network Award, National Science Foundation Award, Amazon Faculty Award, UCLA Faculty Award.**

## RELATED FIELDS: MATH, CS, AI DATA ANALYSIS

- Focus on AI techniques for real-world economic data analysis.
- Apply advanced machine learning in economics.
- Work on research projects with cutting-edge AI tools.
- Present your findings to industry experts.

AI IN ECONOMICS

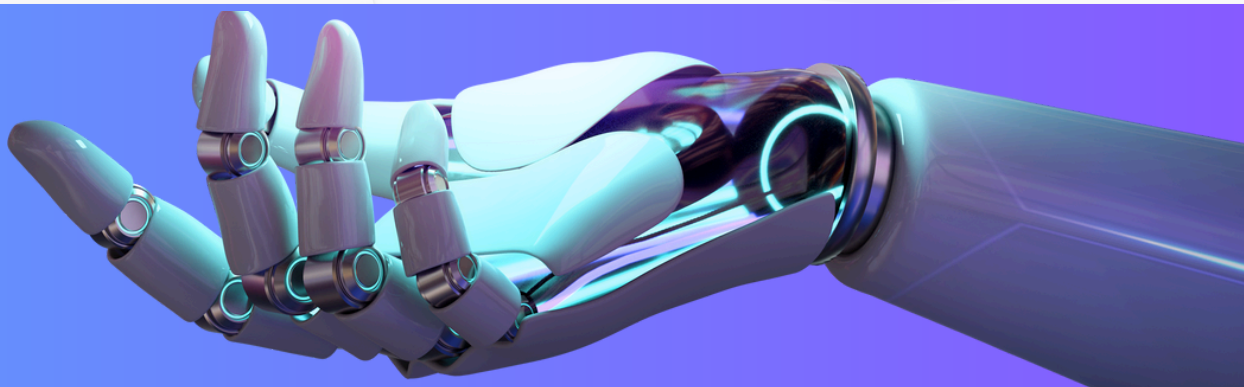
START WEEK: SEPTEMBER 23, 2024

MACHINE LEARNING

DURATION: 8 WEEKS
SESSIONS: 1/WEEK
FORMAT: ONLINE

INDIVIDUALIZED RESEARCH

PUBLISH PAPER
PROFESSOR LOR

COURSE CODE: AI204

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# HIGH SCHOOL RESEARCH PROGRAMS

## WESTERN U HEALTH

## BIO/CHEM STEM CELL RESEARCH PROGRAM IN MEDICINE

LED BY:

**Tenured Biomedical Research Professor, Western University of Health Sciences. 20 years of experience and 40 published papers in research on tumor and stem cell signaling channels, stem cell therapy, and protein genetic engineering.**

## RELATED FIELDS: CHEMISTRY, MEDICAL, BIOLOGY

- Dive into stem cell research with a focus on biomedical applications.
- Learn advanced techniques in molecular biology and regenerative medicine.
- Conduct hands-on research in biochemistry and stem cell technologies.
- Present your biomedical research findings in a formal scientific setting.

**START WEEK: SEPTEMBER 21 OR SEPTEMBER 28, 2024**

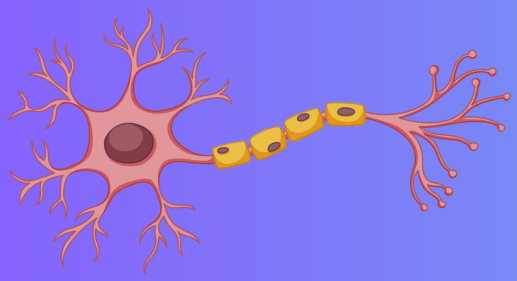
**DURATION: 8 WEEKS**
**SESSIONS: 1/WEEK**
**FORMAT: ONLINE**

**STEM CELL RESEARCH**

**MOLECULAR BIOLOGY**

**HANDS-ON BIOMEDICINE**

**SCIENTIFIC PRESENTATIONS PROFESSOR LOR**



**COURSE CODE: MED105**

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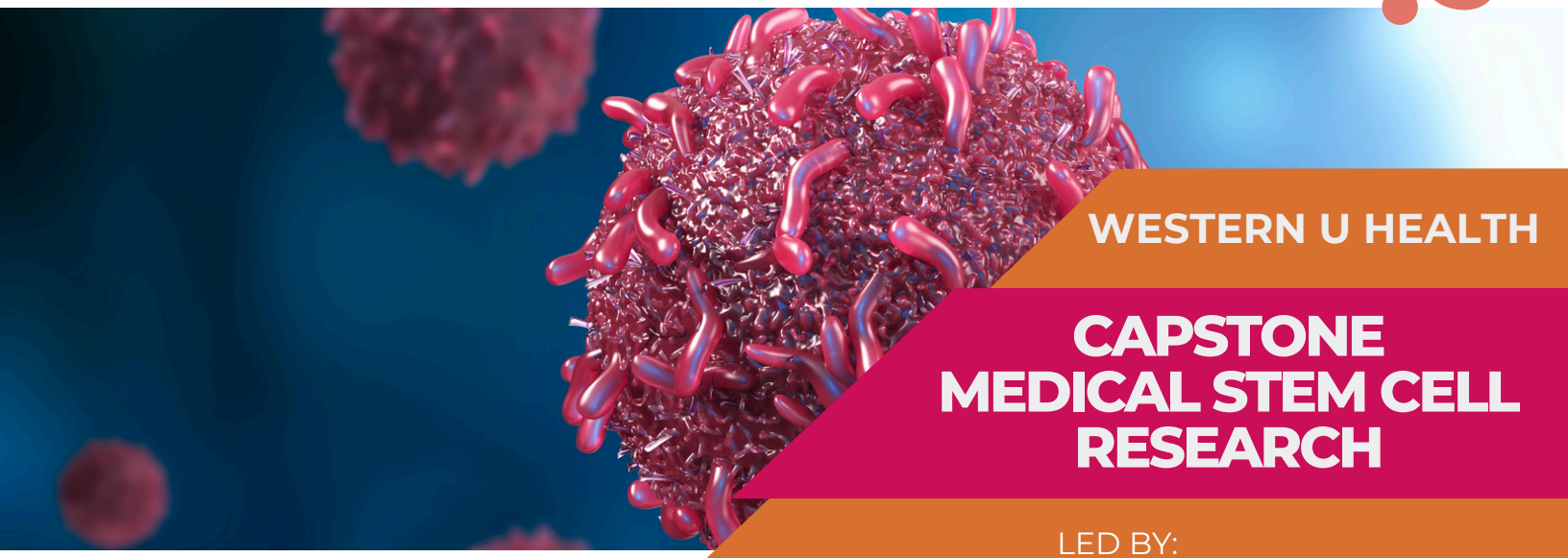
# HIGH SCHOOL RESEARCH PROGRAMS



## WESTERN U HEALTH

## CAPSTONE MEDICAL STEM CELL RESEARCH

LED BY:

**Tenured Biomedical Research Professor, Western University of Health Sciences. 20 years of experience and 40 published papers in research on tumor and stem cell signaling channels, stem cell therapy, and protein genetic engineering.**

## RELATED FIELDS: CHEMISTRY, MEDICAL, BIOLOGY

- Accelerated research program focused on stem cell applications in medicine.
- Work with Nobel Prize-winning methodologies in stem cell research.
- Conduct hands-on research in regenerative medicine and biomedicine.
- Showcase your accelerated stem cell research to medical experts.

**ACCELERATED RESEARCH**

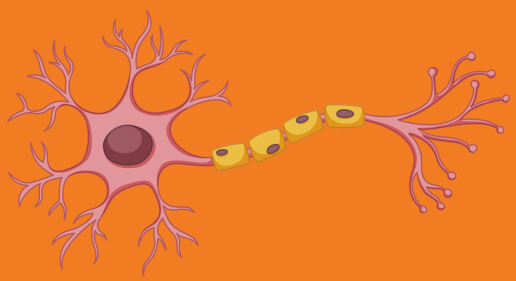
**START WEEK: ROLLING START UPON ENROLLMENT**

**REGENERATIVE MEDICINE**

**DURATION: 16 WEEKS**
**SESSIONS: 1/WEEK**
**FORMAT: ONLINE**

**STEM CELL TECHNIQUE**

**PUBLISH PAPER PROFESSOR LOR**



**COURSE CODE: MED203**

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# HIGH SCHOOL RESEARCH PROGRAMS

## UCR BIOENGINEERING LAB

## CAPSTONE SYNTHETIC BIOLOGY RESEARCH

LED BY:

**Bioengineering Research Professor at University of California, Riverside. Advanced Medical Researcher focused on Biomaterials, Regenerative Medicine, Molecular and Cellular Engineering.**

## RELATED FIELDS: BIOLOGY, CHEMISTRY, BIOENGINEERING

- Engage in capstone projects on synthetic biology and genetic engineering.
- Learn advanced DNA synthesis and genetic circuit design.
- Work on real-world synthetic biology applications.
- Present your research in a professional setting.

SYNTHETIC BIOLOGY

START WEEK: ROLLING START

GENETIC ENGINEERING

DURATION: 10 MONTH
SESSIONS: 2/MONTH
FORMAT: HYBRID

CAPSTONE PROJECTS

PUBLISH PAPER
PROFESSOR LOR

COURSE CODE: BIO204