UCLA School of Engineering

2024-2025 Courses Available to UCEAP Reciprocity Students
Course list subject to change.

Bioengineering (BIOENGR)

Fall 2024
- BIOENGR 10 – Introduction to Bioengineering
- BIOENGR 100 – Bioengineering Fundamentals
- BIOENGR C104 – Physical Chemistry of Biomacromolecules
- BIOENGR C105 – Engineering of Bioconjugates
- BIOENGR 120 – Biomedical Transducers
- BIOENGR C135 – Orthopaedic Biomechanical Engineering
- BIOENGR CM145 – Molecular Biotechnology for Engineers
- BIOENGR M153 – Introduction to Microscale and Nanoscale Manufacturing
- BIOENGR C166 – Wearable Bioelectronics
- BIOENGR CM178 – Introduction to Biomaterials
- BIOENGR M184 – Introduction to Computational and Systems Biology

Winter 2025
- BIOENGR C101 – Engineering Principles for Drug Delivery
- BIOENGR C107 – Polymer Chemistry for Bioengineers
- BIOENGR 122 – Introduction to Medical Imaging
- BIOENGR C139A – Biomolecular Materials Science I
- BIOENGR CM140 – Introduction to Biomechanics
- BIOENGR M153 – Introduction to Microscale and Nanoscale Manufacturing
- BIOENGR 177B – Bioengineering Capstone Design II
- BIOENGR 180 – System Integration in Biology, Engineering, and Medicine I
- BIOENGR C185 – Introduction to Tissue Engineering

Spring 2025
- BIOENGR 132 – Nanogenerators for Bioengineering
- BIOENGR C139B – Biomolecular Materials Science II
- BIOENGR 175 – Machine Learning and Data-Driven Modeling in Bioengineering

Chemical Engineering (CH ENGR)

Fall 2024
- CH ENGR 10 – Introduction to Chemical and Biomolecular Engineering
- CH ENGR 100 – Fundamentals of Chemical and Biomolecular Engineering
- CH ENGR 101A – Transport Phenomena I
- CH ENGR 106 – Chemical Reaction Engineering
- CH ENGR 109 – Numerical & Mathematical Methods in Chemical and Biological Engineering
- CH ENGR C115 – Biochemical Reaction Engineering
- CH ENGR C116 – Surface and Interface Engineering
- CH ENGR CM145 – Molecular Biotechnology for Engineers

Winter 2025
- CH ENGR 45 – Biomolecular Engineering Fundamentals
- CH ENGR 101B – Transport Phenomena II: Heat Transfer
- CH ENGR 102A – Thermodynamics I
- CH ENGR 104D – Molecular Biotechnology Laboratory: From Gene to Product
- CH ENGR 107 – Process Dynamics and Control
- CH ENGR 108A – Process Economics and Analysis
- CH ENGR C112 – Polymer Processes
- CH ENGR C124 – Cell Material Interactions

Spring 2025
- CH ENGR C118 – Multimedia Environmental Assessment
- CH ENGR C125 – Bioseparations and Bioprocess Engineering

Civil and Environmental Engineering (C&EE)

Fall 2024
- C&EE M20 – Introduction to Computer Programming with MATLAB (cross-listed with MECH&AE M20)
- C&EE 155 – Unit Operations and Processes for Water and Wastewater Treatment
- C&EE C181 – Traffic Engineering Systems: Operations and Control
- C&EE 190 – Professional Practice

Winter 2025
- C&EE M20 – Introduction to Computer Programming with MATLAB (cross-listed with MECH&AE M20)
- C&EE C104 – Structure, Processing, and Properties of Civil Engineering Materials
- C&EE 108L – Experimental Structural Mechanics
- C&EE C111 – Machine Learning and Artificial Intelligence for Civil Engineering
- C&EE 120L – Soil Mechanics Laboratory
- C&EE 121 – Design of Foundations and Earth Structures
- C&EE C128 – Geohazards and Infrastructure Resilience
- C&EE 132 – Dynamics of Rigid and Flexible Structures
- C&EE 135B – Intermediate Structural Analysis
- C&EE 142 – Design of Reinforced Concrete Structures
- C&EE 154 – Chemical Fate and Transport in Aquatic Environments
- C&EE C164 – Sustainable Waste Management
- C&EE M166 – Environmental Microbiology
- C&EE C183 Transportation Sustainability
- C&EE C185 – Transportation Systems Analysis

Spring 2025
- C&EE 116XP Engineering & Environmental Justice
- C&EE 125 – Fundamentals of Earthquake Engineering
- C&EE 129L – Engineering Geomatics
- C&EE 130 – Elementary Structural Mechanics
- C&EE M135C – Introduction to Finite Element Methods
- C&EE 143 – Design of Prestressed Concrete Structures
- C&EE C158 – Coastal Engineering
- C&EE M165 – Environmental Nanotechnology: Implications and Applications
- C&EE 170 – Introduction to Construction Management

- C&EE 180 – Introduction to Transportation Engineering
- C&EE C182 – Rigid and Flexible Pavements: Design, Materials, and Serviceability
- C&EE C186 – Intelligent Transportation Systems

Electrical and Computer Engineering (EC ENGR)
- EC ENGR 1 – Undergraduate Seminar
- EC ENGR 2 – Physics for Electrical Engineers
- EC ENGR 2H – Physics for Electrical Engineers
- EC ENGR 10H – Circuit Theory I
- EC ENGR M16 – Logic Design of Digital Systems
- EC ENGR 19 – Fiat Lux Freshman Seminars
- EC ENGR 89 – Honors Seminars
- EC ENGR 101A – Engineering Electromagnetics
- EC ENGR 101B – Electromagnetic Waves
- EC ENGR 102 – Systems and Signals
- EC ENGR 110 – Circuit Theory II
- EC ENGR 110H – Circuit Theory II
- EC ENGR 114 – Speech and Image Processing Systems Design
- EC ENGR 115A – Analog Electronic Circuits I
- EC ENGR 115AL – Analog Electronics Laboratory I
- EC ENGR 115B – Analog Electronic Circuits II
- EC ENGR 115C – Digital Electronic Circuits
- EC ENGR 115DW – Electronic Circuits and Systems Design
- EC ENGR 115E – Design Studies in Electronic Circuits
- EC ENGR M116C – Computer Systems Architecture
- EC ENGR M116L – Introductory Digital Design Laboratory
- EC ENGR M117 – Computer System Security
- EC ENGR M119 – Fundamentals of Embedded Networked Systems
- EC ENGR 121B – Principles of Semiconductor Device Design
- EC ENGR 121DB – Semiconductor Processing and Device Design
- EC ENGR 123A – Fundamentals of Solid-State I
- EC ENGR 123B – Fundamentals of Solid-State II
- EC ENGR 128 – Principles of Nanoelectronics
- EC ENGR 131A – Probability and Statistics
- EC ENGR 132A – Introduction to Communication Systems
- EC ENGR 132B – Data Communications and Telecommunication Networks
- EC ENGR 133A – Applied Numerical Computing
- EC ENGR 133B – Simulation, Optimization, and Data Analysis
- EC ENGR 134 – Graph Theory in Engineering
- EC ENGR 141 – Principles of Feedback Control
- EC ENGR 142 – Linear Systems: State-Space Approach
- EC ENGR C143A – Neural Signal Processing
- EC ENGR M146 – Introduction to Machine Learning
- EC ENGR M148 – Introduction to Data Science
- EC ENGR 149 – Foundations of Computer Vision
- EC ENGR M153 – Introduction to Microscale and Nanoscale Manufacturing
- EC ENGR 162A – Wireless Communication Links and Antennas
- EC ENGR 163A – Introductory Microwave Circuits
- EC ENGR 163C – Fundamental Principles of Radiofrequency and Microwave Systems
- EC ENGR 163DA – Microwave and Wireless Design I

- EC ENGR 163DB – Microwave and Wireless Design II
- EC ENGR 170A – Principles of Photonics
- EC ENGR 170B – Lasers and Photonic Devices
- EC ENGR 170C – Photonic Sensors and Solar Cells
- EC ENGR M171L – Data Communication Systems Laboratory
- EC ENGR 173DA – Photonics and Communication Design
- EC ENGR 173DB – Photonics and Communication Design
- EC ENGR 176 – Photonics in Biomedical Applications
- EC ENGR 181DA – Honors Thesis
- EC ENGR 181DB – Honors Thesis
- EC ENGR CM182 – Science, Technology, and Public Policy
- EC ENGR 183DA – Design of Robotic Systems I
- EC ENGR 183DB – Design of Robotic Systems II
- EC ENGR 184DA – Independent Group Project Design
- EC ENGR 184DB – Independent Group Project Design
- EC ENGR M185 – Introduction to Plasma Science and Engineering
- EC ENGR 188 – Special Courses in Electrical Engineering
- EC ENGR 188SA – Individual Studies for USIE Facilitators
- EC ENGR 188SB – Individual Studies for USIE Facilitators
- EC ENGR 188SC – Individual Studies for USIE Facilitators
- EC ENGR 189 – Advanced Honors Seminars
- EC ENGR 194 – Research Group Seminars: Electrical Engineering
- EC ENGR 199 – Directed Research in Electrical Engineering

Materials Science and Engineering (MAT SCI)

Fall 2024
- MAT SCI 10 – New Materials
- MAT SCI 33W – Materials Structure and Technology in Archaeology and Architecture
- MAT SCI 105 – Principles of Nanoscience and Nanotechnology
- MAT SCI 110 – Introduction to Materials Characterization A (Crystal Structure, Nanostructures, and X-Ray Scattering)
- MAT SCI 110L – Introduction to Materials Characterization A Laboratory
- MAT SCI 130 – Phase Relations in Solids
- MAT SCI 160 – Introduction to Ceramics and Glasses
- MAT SCI CM163 – Electrochemical Processes

Winter 2025
- MAT SCI C111 – Introduction to Materials Characterization B (Electron Microscopy)
- MAT SCI 120 – Physics of Materials
- MAT SCI 122 – Principles of Electronic Materials Processing
- MAT SCI 131 – Diffusion and Diffusion-Controlled Reactions
- MAT SCI 131L – Diffusion and Diffusion -Controlled Reactions Laboratory
- MAT SCI 140A – Materials Selection and Engineering Design A
- MAT SCI 141L – Computer Methods and Instrumentation in Materials Science
- MAT SCI 150 – Introduction to Polymers

Spring 2025*
- MAT SCI 121L – Materials Science of Semiconductors Laboratory

Mechanical and Aerospace Engineering (MECH&AE)

- MECH&AE 1 – Undergraduate Seminar
- MECH&AE 82 – Mathematics of Engineering
- MECH&AE 103 – Elementary Fluid Mechanics
- MECH&AE 105A – Introduction to Engineering Thermodynamics
- MECH&AE 105D – Transport Phenomena
- MECH&AE 131A – Intermediate Heat Transfer
- MECH&AE C137 – Design and Analysis of Smart Grids
- MECH&AE C138 – Introduction to Statistical Thermodynamics
- MECH&AE CM140 – Introduction to Biomechanics
- MECH&AE 150A – Intermediate Fluid Mechanics
- MECH&AE 150B – Aerodynamics
- MECH&AE 150C – Combustion Systems
- MECH&AE C150P – Aircraft Propulsion Systems
- MECH&AE C150R – Rocket Propulsion Systems
- MECH&AE 154S – Flight Mechanics, Stability, and Control of Aircraft
- MECH&AE 155 – Intermediate Dynamics
- MECH&AE 156A – Advanced Strength of Materials
- MECH&AE C156B – Mechanical Design for Power Transmission
- MECH&AE 161C – Spacecraft Design
- MECH&AE C162B – Compliant Mechanism Design
- MECH&AE C163A – Kinematics of Robotic Systems
- MECH&AE C163B – Dynamics of Robotic Systems
- MECH&AE C163C – Control of Robotic Systems
- MECH&AE 166C – Design of Composite Structures
- MECH&AE M168 – Introduction to Finite Element Methods
- MECH&AE 171A – Introduction to Feedback and Control Systems
- MECH&AE 171B – Digital Control of Physical Systems
- MECH&AE 172 – Control System Design Laboratory
- MECH&AE 174 – Probability and Its Applications to Risk, Reliability, and Quality Control
- MECH&AE C175A – Probability and Stochastic Processes in Dynamical Systems
- MECH&AE 181A – Complex Analysis and Integral Transforms
- MECH&AE 182C – Numerical Methods for Engineering Applications
- MECH&AE 185 – Introduction to Radio Frequency Identification
- MECH&AE C186 – Applied Optics
- MECH&AE C187L – Nanoscale Fabrication, Characterization, and Biodetection Laboratory

* Course offering is tentative, and subject to change.
See the UCLA Schedule of Classes for course offerings. The UCLA General Catalog provides course descriptions of courses offered in the past.

If an engineering course is not on the list, it is not available to reciprocity students. You may complete the Enrollment Consideration Request (ECR) form. Completing the form does not guarantee course access. The ECR is on a priority basis, not a first-come, first-served basis. Course list subject to change.

11/2024