

# MEng Courses | Mechanical Engineering

## Fall 2020 – Spring 2021

### Advanced Energy Technology

#### > Fall

- Mech Eng 250A (3 units) - Advanced Conductive and Radiative Transport
- Mech Eng 254 (3 units) - Advanced Thermophysics for Applications
- Mech Eng 255 (3 units) - Advanced Combustion Processes
- Mech Eng 292E (3 units) - Advanced Special Topics in Energy Science and Technology

#### > Spring

- Mech Eng 235 (4 units) - Design of Microprocessor-Based Mechanical Systems
- Mech Eng 250B (3 units) - Advanced Convective Transport and Computational Methods

### Biomechanics

#### > Fall

- Mech Eng C210 (4 units) - Advanced Orthopedic Biomechanics
- Mech Eng C223 (3 units) - Polymer Engineering
- Mech Eng 239 (4 units) - Advanced Design and Automation
- Mech Eng C278 (4 units) - Advanced Designing for the Human Body
- Mech Eng 292C-001 (3 units) - Human-Centered Design Methods

#### > Spring

- Mech Eng 270 (4 units) - Advanced Augmentation of Human Dexterity
- Mech Eng C216 (4 units) - Molecular BioMechanics and Mechanobiology of the Cell
- Mech Eng C225 (4 units) - Deformation and Fracture of Engineering Materials

## **Control of Robotic and Autonomous Systems**

*(formerly Experimental Advanced Control Systems Design)*

### **> Fall**

- Mech Eng C231A / EI Eng C220B (3 units) - Experiential Advanced Control Design I **(required)**
- Mech Eng C232 / EI Eng C220A (3 units) - Advanced Control Systems I
- Mech Eng 236 U (3 units) - Introduction to Control of Unmanned Aerial Vehicles
- Mech Eng 292B-003 (3 units) - Feedback Control of Legged Robots

### **> Spring**

- Mech Eng C231B / EI Eng C220C (3 units) - Experiential Advanced Control Design II **(required)**
- Mech Eng 233 (3 units) - Advanced Control Systems II
- Mech Eng 235 (4 units) - Design of Microprocessor-Based Mechanical Engineering

## **Fluids and Ocean**

### **> Fall**

- Mech Eng 260A (3 units) - Advanced Fluid Mechanics I
- Mech Eng 262K (3 units) - Mechanics of Offshore Systems

### **> Spring**

- Mech Eng 260B (3 units) - Advanced Fluid Mechanics II
- Mech Eng 262 (3 units) - Theory of Fluid Sheets and Fluid Jets
- Mech Eng 245 (3 units) - Oceanic and Atmospheric Waves

## **MEMS/Nano**

### **> Fall**

- Mech Eng C231A / EI Eng C220B (3 units) - Experiential Advanced Control Design I
- Mech Eng 280A (3 units) - Introduction to the Finite Element Method

### > Spring

- Mech Eng C231B / EI Eng C220C (3 units) - Experiential Advanced Control Design II (**required**)
- Mech Eng 235 (4 units) - Design of Microprocessor-Based Mechanical Engineering
- Mech Eng C218 (4 units) – Introduction to MEMS Design

## Mechanics and Dynamics

### > Fall

- Mech Eng 271 (3 units) - Intermediate Dynamics
- Mech Eng 280A (3 units) - Introduction to the Finite Element Method (**required**)
- Mech Eng 287 (3 units) - Graduate Introduction to Continuum Mechanics

### > Spring

- Mech Eng C279 / Civ Eng C235 (3 units) - Statistical Mechanics of Elasticity
- Mech Eng 282 (3 units) - Theory of Elasticity
- Mech Eng 285A (3 units) – Foundations of the Theory of Continuous Media

## Modeling and Simulation of Advanced Manufacturing Processes

### > Fall

- Mech Eng 203 (3 units) - Nanoscale Processing of Materials
- Mech Eng C223 (3 units) - Polymer Engineering
- Mech Eng 280A (3 units) - Introduction to the Finite Element Method (**required**)

### > Spring

- Mech Eng C201(3 units) - Modeling and Simulation of Advanced Manufacturing Processes (**required**)
- Mech Eng 224 (3 units) - Mechanical Behavior of Engineering Materials

- Mech Eng C 225 (4 units) - Deformation and Fracture of Engineering Materials
- Mech Eng 229 (3 units) - Design of Basic Electro-Mechanical Devices
- Mech Eng C279 (3 units) - Introduction to Statistical Mechanics for Engineers

## **Product Design**

### **> Fall**

- Mech Eng C200 (3 units) - Design, Evaluate, and Scale Development Technologies
- Mech Eng C223 (3 units) - Polymer Engineering
- Mech Eng C231A / EI Eng C220B (3 units) - Experiential Advanced Control Design I
- Mech Eng 239 (4 units) - Advanced Design and Automation
- Mech Eng C278 (3 units) - Advanced Designing for the Human Body
- Mech Eng 292C-001 (3 units) - Human-Centered Design Methods
- Mech Eng 292C-002 (3 units) - Reimagining Mobility

### **> Spring**

- Mech Eng C205 (3 units) - Critical Making
- Mech Eng 229 (3 units) - Design of Basic Electro-Mechanical Devices
- Mech Eng 235 (4 units) - Design of Microprocessor-Based Mechanical Engineering
- Mech Eng 292C-001 (3 units) - Advanced Special Topics in Design - "Reimagining Mobility"