

# Online Master of Engineering

The [online Master of Engineering](#) program is your opportunity to broaden your understanding of the practice of engineering in today's business environment through a **leadership-focused professional graduate degree**. Through our interactive online learning environment, you will address critical competencies needed to enhance your technical skills, business acumen and personal effectiveness in the workplace. We offer four technical concentrations for this degree, in biomedical engineering (EBME); mechanical engineering (EMAE); systems and control engineering (SCS); and engineering innovation, management and leadership (EIML).

## Program Benefits

- Engage [100 percent online coursework](#) specifically designed to address the practice of engineering in today's business environment
- Earn a practice-oriented degree that does not feature a required master's thesis
- Learn from the same renowned faculty who teach in our engineering programs on campus
- Choose from four available concentrations to hone targeted technical aptitude
- Enjoy professional support, including entrepreneurial opportunities through [CWRU LaunchNet](#) and remote or in-person appointments with CWRU's innovative on-campus academic makerspace, [Sears think\[box\]](#)

## Online Program Structure

- 30 credit hours
- 10 courses
  - 5 core courses
  - 4 technical concentration courses
  - 1 core capstone course
- Can be completed in as few as 18 months
- 3 annual starts: spring, summer and fall

## Admissions Requirements

- Completed [online application form](#)
- **Bachelor's degree** (Bachelor of Science in Engineering preferred)
- **Official transcripts**
- **Personal statement** of one to two pages
- **Resume/CV**
- **Two letters of recommendation** from professional or academic sources (non-family)
- **Application fee: \$50** (Speak with an advisor about waiving your fee)
- **International Applicants: TOEFL, IELTS or PTE scores\***
  - We are suspending certain requirements for the spring 2024 terms. International applicants may be eligible for conditional admittance; please speak with your advisor to learn more.

\*International students whose first language is not English must demonstrate English proficiency by submitting Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or Pearson Test of English (PTE-Academic) scores. See our [requirements for international applicants for details](#).

## The Curriculum

### Core Courses:

**EPOM 400** Leadership and Interpersonal Skills

**EPOM 401** Introduction to Business for Engineers

**EPOM 403** Product and Process Design and Implementation

**EPOM 405** Applied Engineering Statistics

**EPOM 407** Engineering Economics & Financial Analysis

**EPOM 409** Master of Engineering Capstone Project

### Biomedical Engineering Concentration (Choose 4):

**EBME 401D** Biomedical Instrumentation & Signal Processing

**EBME 406** Polymers in Medicine (materials)

**EBME 410** Medical Imaging Fundamentals (imaging)

**EBME 421** Bioelectric Phenomena (neural engineering)

**EBME 432** Quantitative Analysis of Physiological Systems

**EBME 440** Translational Research for BME

**EBME 451** Cellular and Molecular Physiology

**EBME 471** Principles of Medical Device Design and Innovation

### Mechanical Engineering Concentration (Choose 4):

**EMAE 450** Advanced Mechanical Engineering Analysis

**EMAE 456** Bio Manufacturing and MEMS (Micro-Electro-Mechanical Systems)

**EMAE 460** Theory and Design of Fluid Power Machinery

**EMAE 480** Fatigue of Materials

**EMAE 481** Advanced Dynamics I

**EMAE 487** Vibration Problems in Engineering

**EMAE 494** Energy Systems

### Systems and Control Engineering Concentration (Choose 4):

**EECS 401** Digital Signal Processing

**EECS 404** Digital Control Systems

**EECS 408** Introduction to Linear Systems

**EECS 416** Convex Optimization for Engineering

**EECS 468** Power System Analysis

### Engineering Innovation, Management and Leadership Concentration:

**EPOM 410** Intellectual Property Management and Opportunity Assessment

**EPOM 411** Innovation - the Confluence of Need, Requirements and Creativity

**EPOM 412** Technology Commercialization - Aligning Development Requirements to Value Creation Activities

**EPOM 413** Innovation, Strategy and Leadership - Contemporary Approaches to Future Growth

## Join a new breed of engineering leaders. Transform your career.

Interested in expanding your leadership potential in one of the many professional applications of engineering? Learn more about our online Master of Engineering program by reaching out to an Admissions Advisor at 855-500-3840 or [admissions.case@elearningctr.com](mailto:admissions.case@elearningctr.com).