

Master of Engineering

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The Master of Engineering Program is administered by faculty of the Henry Samueli School of Engineering. The program offers the Master of Engineering degree in multiple concentrations and specializations.

The curriculum includes foundational courses that vary by specialization as well as an entrepreneurial/intrapreneurial sequence of courses that is common to all the specializations. The degree has a strong experiential learning component embodied in a capstone project supervised by faculty members. The M.Eng. program was developed, in part, to serve the needs of domestic and international students, and working professionals among whom the leaders of their respective specializations are especially likely to come.

Potential graduate students for the M.Eng. Program can apply via the Graduate Division's online application and indicate on their applications their interest in the program. Students apply directly to the concentration of their choice. Applicants are expected to hold a Bachelor's degree in an Engineering or Computer Science discipline. Students from other disciplines may be considered for admission if they have sufficient background in the basics of their target specialization. Applicants will be evaluated on the basis of their prior academic record and their potential for carrying out graduate-level work as demonstrated in submitted application materials. These materials include official university transcripts, letters of recommendation, GRE scores, and a Statement of Purpose where students can explain their relevant experience (academic or industry). Students with industry experience will be considered favorably, especially if their experience is relevant to the areas emphasized by their target specialization.

An admissions committee composed of senate faculty members will evaluate the applicant files and make admissions decisions based on the overall file presented by the student.

Overall, students will be admitted using criteria similar to those used in traditional M.S. degree from relevant departments.

Master of Engineering Program Requirements

The Master of Engineering (M.Eng) consists of six concentrations electives specific to each concentration, plus 8 units of project courses leading to a final project. In addition, a common layer of three courses in Business/Communication/Leadership is required in all of the specializations.

A. Complete:

ENGR 200AP	Entrepreneurship Science and Engineering: Innovation
ENGR 200BP	Entrepreneurship Science and Engineering: Build
ENGR 200CP	Entrepreneurship Science and Engineering: Launch

B. Complete six technical courses. Acceptable courses for each concentration/specialization are listed below:

Biomedical Engineering Concentration

Students in the BME Concentration select six courses from the following:

BME 234P	Neuroimaging Data Analysis
BME 262P	Microimplants
BME 295P	Special Topics in Biomedical Engineering

Electrical Engineering and Computer Science Concentration

Students in the EECS Concentration select from two specializations:

Digital and Image Signal Processing

Complete the following:

EECS 213P	Computer Architecture
EECS 220P	Advanced Digital Signal Processing Architecture
EECS 250P	Digital Signal Processing I

Select three from the following:

EECS 202BP	Techniques in Medical Imaging: X-ray, Nuclear, and NMR Imaging
EECS 211P	Advanced System Software
EECS 215P	Design and Analysis of Algorithms
EECS 223P	Real-Time Computer Systems
EECS 240P	Random Processes
EECS 241AP	Digital Communications I
EECS 295P	Special Topics in Electrical Engineering and Computer Science

High Speed Communication Circuits and Systems

Complete:

EECS 241AP	Digital Communications I
EECS 244P	Wireless Communications
EECS 270AP	Advanced Analog Integrated Circuit Design I
EECS 285AP	Optical Communications
Select two from the following:	
EECS 240P	Random Processes
EECS 241BP	Digital Communications II
EECS 250P	Digital Signal Processing I
EECS 270DP	Radio-Frequency Integrated Circuit Design
EECS 270BP	Advanced Analog Integrated Circuit Design II
EECS 280AP	Advanced Engineering Electromagnetics I
EECS 284P	RF Antenna Design
EECS 295P	Special Topics in Electrical Engineering and Computer Science

Mechanical and Aerospace Engineering Concentration

Students in the MAE Concentration select from two specializations:

Energy Systems

Select six courses from the following:

ENGRMAE 209P	Energy Efficiency Technology
ENGRMAE 211P	Energy Storage Systems and Technology
ENGRMAE 212P	Engineering Electrochemistry: Fundamentals and Applications
ENGRMAE 214AP	Fuel Cell Fundamentals and Technology
ENGRMAE 217P	Generalized Thermodynamics
ENGRMAE 218P	Sustainable Energy Systems
ENGRMAE 219P	Solar and Renewable Energy Systems
ENGRMAE 295P	Special Topics in Mechanical and Aerospace Engineering

Nanotechnology

Select six courses from the following:

ENGRMAE 229P	Nanoscale Materials for Modern Electronics
ENGRMAE 247P	Micro-System Design
ENGRMAE 252P	Fundamentals of Microfabrication
ENGRMAE 254P	Mechanics of Solids and Structures
ENGRMAE 257P	Fabrication and Characterization of Nanomaterials
ENGRMAE 259P	Mechanical Behavior of Solids - Atomistic Theories
ENGRMAE 295P	Special Topics in Mechanical and Aerospace Engineering

C. Complete:

ENGR 210P	Capstone Project (8 units) ¹
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¹ Students are required to complete a project that deals with a specific emphasis of their concentration/specialization. The project will be mentored by a faculty member and approved by the student's advisor and the Concentration Director. A project report must be submitted in partial fulfillment of the degree requirements. The project report needs to be approved by the mentor, the student's advisor and the director of the M.Eng. Program.