Programs in Engineering are multi-department programs, and administered by the College of Engineering. Requirements are determined based on the specific area of interest. Options include a minor at the undergraduate level, and a master's degree at the graduate level.

College of Engineering
W1024 Lafferre Hall
Columbia, MO 65211
http://engineering.missouri.edu

Faculty
Please see the appropriate degree program pages for faculty information.

* Graduate Faculty Member - membership is required to teach graduate-level courses, chair master's thesis committees, and serve on doctoral examination and dissertation committees.

** Doctoral Faculty Member - membership is required to chair doctoral examination or dissertation committees. Graduate faculty membership is a prerequisite for Doctoral faculty membership.

Undergraduate

• Minor in Engineering (http://catalog.missouri.edu/undergraduate/collegeofengineering/engineering/minor-engineering/)

Graduate

• ME in Engineering (http://catalog.missouri.edu/undergraduate/collegeofengineering/engineering/me-engineering/)

The College of Engineering offers the Master of Engineering degree for graduate students interested in a terminal master's degree, who have a demonstrated need for a professional, non-research degree in engineering, and have an academic interest in a specific focus area within engineering.

Several departments in the College of Engineering administers an ME degree focusing in that area.

Note: A focus area is not listed on the MU transcript. Hence the transcript and the diploma for any student completing an ME degree will only indicate Master of Engineering, with no designation of any specific department.

ENGINR 1000: Introduction to Engineering
This course will help students identify a field of engineering that they will pursue during their studies at MU. This objective will be achieved by exposing students to design in the different engineering disciplines, overviews of the individual departments, and guest lecturers from industry. Other lectures will be given to help acclimate students to university life. Graded on A-F basis only.

Credit Hour: 1

ENGINR 1100: Engineering Graphics Fundamentals
Introduction to computer-aided design and drafting. Topics include visualization methods and standards techniques for communication and presenting engineering design graphics information.

Credit Hours: 2
Prerequisites or Corequisites: MATH 1500
Prerequisites: Restricted to Engineering Students only, or by departmental consent

ENGINR 1100H: Engineering Graphics Fundamentals - Honors
Introduction to computer-aided design and drafting. Topics include visualization methods and standards techniques for communication and presenting engineering design graphics information.

Credit Hours: 2
Prerequisites or Corequisites: MATH 1500
Prerequisites: Restricted to Engineering Students only, or by departmental consent. Honors Eligibility required

ENGINR 1110: Solid Modeling for Engineering Design
Introduction to 3D (three dimensional) modeling techniques using computer aided design software. Topics include model creation techniques and advanced graphical presentation practices. Graded on A-F basis only.

Credit Hour: 1
Prerequisites: ENGINR 1100 or instructor's consent. Restricted to Engineering Students Only or with departmental consent

ENGINR 1200: Statics and Elementary Strength of Materials
Fundamentals of statics; static equilibrium and introduction to elements of mechanics of elastic materials.

Credit Hours: 3
Prerequisites or Corequisites: PHYSCS 2750 C- or higher. Restricted to Engineering Students only or with departmental consent
Prerequisites: MATH 1500 C- or higher

ENGINR 1200H: Statics and Elementary Strength of Materials - Honors
Fundamentals of statics; static equilibrium and introduction to elements of mechanics of elastic materials.

Credit Hours: 3
Prerequisites or Corequisites: PHYSCS 2750 C- or higher. Restricted to Engineering Students only or with departmental consent
Prerequisites: MATH 1500 C- or higher. Honors eligibility required

ENGINR 2001: Experimental Course
For sophomore-level students. Content and number of credit hours to be listed in Schedule of Courses.

Credit Hour: 1-99

ENGINR 2001W: Experimental Course - Writing Intensive
For sophomore-level students. Content and number of credit hours to be listed in Schedule of Courses.

Credit Hour: 1-99

ENGINR 2100: Circuit Theory for Engineers
DC circuit analysis, inductors and capacitors, first-order response, AC circuit analysis, single-phase AC power and three-phase, transformers.

Credit Hours: 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Prerequisites</th>
<th>Credit Hours</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGINR 1200</td>
<td>History of Modern Engineering</td>
<td>MATH 1700. Restricted to Engineering Students Only or with departmental consent</td>
<td>3</td>
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<tr>
<td>ENGINR 2100H</td>
<td>Circuit Theory for Engineers - Honors</td>
<td>MATH 1700. Honors eligibility required</td>
<td>3</td>
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<tr>
<td>ENGINR 2200</td>
<td>Intermediate Strength of Materials</td>
<td>ENGINR 1200 C- or higher. Restricted to Engineering Students only or with departmental consent</td>
<td>3</td>
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<tr>
<td>ENGINR 2300</td>
<td>Engineering Thermodynamics</td>
<td>PHYSCS 2750. Restricted to Engineering Students Only or departmental consent</td>
<td>3</td>
<td></td>
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<tr>
<td>ENGINR 2500</td>
<td>A History of Modern Engineering</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENGINR 2600H</td>
<td>History of Human Spaceflight - Honors</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENGINR 2600HW</td>
<td>History of Human Spaceflight - Honors/ Writing Intensive</td>
<td>Honors eligibility required</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENGINR 3000</td>
<td>Short Term Education Abroad</td>
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<td>3</td>
<td></td>
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<tr>
<td>ENGINR 4000</td>
<td>Study Abroad Technical Elective</td>
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<td>3-6</td>
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<tr>
<td>ENGINR 4050</td>
<td>Cooperative Education Program</td>
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<tr>
<td>ENGINR 4890</td>
<td>Multi-disciplinary Senior Engineering Capstone Design</td>
<td>Engineering design and prototyping including reliability, testing, evaluation, preparation of documentation, safety, ethics, manufacturing, intellectual property, economic and environmental constraints. Oral and written reports. Graded A-F only.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENGINR 4890W</td>
<td>Multi-disciplinary Senior Engineering Capstone Design - Writing Intensive</td>
<td>Engineering design and prototyping including reliability, testing, evaluation, preparation of documentation, safety, ethics, manufacturing, intellectual property, economic and environmental constraints. Oral and written reports. Graded A-F only.</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Prerequisites**: For all courses, students must be in Academic Good Standing unless otherwise noted.
ENGINR 8100: Design and Development of Biomedical Innovations
(same as BIOL_EN 8100, MPP 8100). The overarching goal of this course is to help participants understand the design and development (drug or device) process in biomedical innovation. This course will help participants to understand the process of choosing unmet clinical needs, articulate a need statement without integrating solution, design and develop a solution. Participants will learn to assess the commercial potential of clinical needs by performing market analysis and valuing customer needs. A conceptual understanding about development of a prototype for a device and also drug development by different brainstorming process will be provided. Details of regulatory, reimbursement, patenting process required for product development will be explained with examples. An overview about how to evaluate preliminary designs, define product specifications, comply with manufacturing principles and methods, costs, cGMP requirements will be explained. Quality control and Quality assurance necessities for drug/device will be elucidated with case studies. Participants will gain knowledge about different business models for drug and devices, estimate market penetration and how to make profitable, patient-driven products. Graded on A-F basis only.

Credit Hours: 3