The B.S.ME/M.S.ME program requires students to take 12 hours of graduate coursework toward their B.S.ME professional elective requirement. This same 12 hours likewise count toward the M.S.ME degree.

Interested students typically apply as an “internal ME applicant” in the second half of their junior year after completion of 81 hours of coursework in the undergraduate program with a cumulative undergraduate GPA of 3.2 or higher. If a GPA of 3.0 has been maintained and grades of “B” or better are received in the first two graduate courses (typically in the seventh semester), the student will be asked to formally apply to the Purdue Graduate School at the beginning of his or her eighth semester of the senior year.

Complete details of the combined B.S.ME/M.S.ME program can be found on the Web. Questions about this information should be emailed to MEgradoffice@purdue.edu.

School of Mechanical Engineering

Mechanical Engineering Major Change (CODO) Requirements

Degree Requirements

128 Credits Required

Mechanical Engineering Major Requirements (67-68 credits)

Mechanical Engineering Major Courses (37 credits)

- ME 20000 - Thermodynamics I ♦
- ME 27000 - Basic Mechanics I ♦
- ME 26300 - Introduction To Mechanical Engineering Design, Innovation And Entrepreneurship ♦
- ME 27400 - Basic Mechanics II ♦
- ME 29000 - Global Engineering Professional Seminar ♦ (satisfies Science, Technology & Society for core)
- ME 30800 - Fluid Mechanics ♦
- ME 30801 - Fluid Mechanics Laboratory ♦
- ME 31500 - Heat And Mass Transfer ♦
- ME 32300 - Mechanics Of Materials ♦
- ME 32301 - Mechanics Of Materials Laboratory ♦
- ME 35400 - Machine Design ♦
- ME 36500 - Measurement And Control Systems I ♦
- ME 37500 - Measurement And Control Systems II ♦
- ME 46300 - Engineering Design ♦

Other Departmental Required Courses (21-22 credits)

The courses listed below are also included in Major GPA calculation.

- ECE 20001 - Electrical Engineering Fundamentals I ♦
- ECE 20007 - Electrical Engineering Fundamentals I Lab ♦
- MA 26100 - Multivariate Calculus ♦
- MA 26200 - Linear Algebra And Differential Equations ♦

- MA 30300 - Differential Equations And Partial Differential Equations For Engineering And The Sciences ♦
- MSE 23000 - Structure And Properties Of Materials ♦

- PHYS 24100 - Electricity And Optics ♦ or
- PHYS 27200 - Electric And Magnetic Interactions ♦

Other Program/Department Requirements (58-68 credits)

First-Year Engineering Requirements (29-39 credits)

Click here for First-Year Engineering requirements.

- Requirement #1 - Intro to Engineering I (2-4 credits)
- Requirement #2 - Intro to Engineering II (2-4 credits)
- Requirement #3 - Calculus I (4-5 credits) *(satisfies Quantitative Reasoning for core)*
- Requirement #4 - Calculus II (4-5 credits) *(satisfies Quantitative Reasoning for core)*
- Requirement #5 - Chemistry I (4-6 credits) *(satisfies Science #1 for core)*
- Requirement #6 - Physics (4 credits) *(satisfies Science #2 for core)*
- Requirement #7 - First-Year Engineering Selective (3-4 credits)
- Requirement #8 - Written and Oral Communication (6-7 credits) *(could satisfy Written Communication, Information Literacy or Oral Communication for core)*

Mechanical Engineering Electives (9 credits)

- ME Elective I - Credit Hours: 3.00
- ME Elective II - Credit Hours: 3.00
- ME Elective III - Credit Hours: 3.00

Note: *Any ME 30000, 40000, 50000 Level Course (*Includes any ME Course not used to fulfill Major Course requirements.) *These courses are not included in the major GPA calculation)*

Other Departmental Requirements (14 credits)

- MFET 16300 - Graphical Communication And Spatial Analysis ♦

Economics Selective - Credit Hours: 3.00 (satisfies Human Cultures: Behavioral/Social Science for core)

- ECON 25100 - Microeconomics or
- ECON 25200 - Macroeconomics

Technical Electives (9 credits) *-see supplemental information for list of courses*

- Technical Elective I - Credit Hours: 3.00
- Technical Elective II - Credit Hours: 3.00
- Technical Elective III - Credit Hours: 3.00

General Education Requirement (15 credits)

- General Education-I - Credit Hours: 3.00
- General Education-II - Credit Hours: 3.00
- General Education-III - Credit Hours: 3.00

- General Education-IV - Credit Hours: 3.00
- World & Cultural Affairs Selective - Credit Hours: 3.00 (satisfies Human Cultures: Humanities for core)

See supplemental information for specific requirements and list of courses

Supplemental List

Click here for Mechanical Engineering Supplemental Information

Elective (3 credits)

- Elective - Credit Hours: 3.00 *See supplemental information no count list for information on courses that do not count.*

Supplemental List

Click here for Mechanical Engineering Supplemental Information

Grade Requirements

- MA courses must have C- or above

GPA Requirements

- 2.0 Graduation GPA required for Bachelor of Science degree
- Minimum 2.0 ME Core GPA
  - ME Core courses for GPA include: ME 20000, 26300, 27000, 27400, 29000, 30800, 30801, 31500, 32300, 35400, 35401, 36500, 37500, 46300. In addition to the ME core classes, the following courses are also included the ME core GPA: MA 26100, 26200 (26500/26600), 30300; PHYS 24100/27200; ECE 20001, 20007; and MSE 23000.

Course Requirements and Notes

- Non-Introductory/Upper level courses = 30000+ level course or courses with required pre-requisite in the same department.

Non-course / Non-credit Requirements

- **Milestone One**: Refer to the College of Engineering Enrollment Management Policy for guaranteed admission to Mechanical Engineering after the completion of the FYE program - https://engineering.purdue.edu/Engr/InfoFor/CurrentStudents/enrollment-policy.
- **Milestone Two**: At the time of degree completion, milestones of a minimum 2.0 ME Core GPA, minimum 2.0 cumulative GPA, completion of a senior exit survey, and applying for graduation should be met. (2.0 Graduation GPA required for Bachelor of Science degree)

Pass/No Pass Policy

- All courses to satisfy the Bachelors of Science in Mechanical Engineering degree (128 credit hours) must be taken for a letter grade. Pass/No pass grades will not be accepted to meet degree requirements.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the Provost's Website.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency **website.**

Students will complete the Proficiency by passing a test of civic knowledge, and completing one of three paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample First Year Engineering Plan of Study

Fall 1st Year

- CHM 11500 - General Chemistry *(FYE Requirement #8)* - Credit Hours: 4.00 or (CHM 11100 and CHM 11200)
- ENGR 13100 - Transforming Ideas To Innovation I ♦ (*FYE Requirement #1)* - Credit Hours: 2.00

- MA 16100 - Plane Analytic Geometry And Calculus I ♦ *(FYE Requirement #3)* - Credit Hours: 5.00 or
- MA 16500 - Analytic Geometry And Calculus I ♦ *(FYE Requirement #3)* - Credit Hours: 4.00

- Written Communication Selective *(FYE Requirement #8)* - Credit Hours: 3.00-4.00 (satisfies Written Communication for core) or
- Oral Communication Selective *(FYE Requirement #8)* - Credit Hours: 3.00 (satisfies Oral Communication for core)

13-14 Credits

Spring 1st Year

- ENGR 13200 - Transforming Ideas To Innovation II ♦ *(FYE Requirement #2)* - Credit Hours: 2.00

- PHYS 17200 - Modern Mechanics *(FYE Requirement #6)* - Credit Hours: 4.00

- MA 16200 - Plane Analytic Geometry And Calculus II ♦ *(FYE Requirement #4)* - Credit Hours: 5.00 or
- MA 16600 - Analytic Geometry And Calculus II ♦ *(FYE Requirement #4)* - Credit Hours: 4.00

- Written Communication Selective *(FYE Requirement #8)* - Credit Hours: 3.00-4.00 (satisfies Written Communication for core) or
- Oral Communication Selective *(FYE Requirement #8)* - Credit Hours: 3.00 (satisfies Oral Communication for core)

First-Year Engineering Selective (*FYE Requirement # 7*) - Credit Hours: 3.00-4.00

- CHM 11600 - General Chemistry or
- CS 15900 - C Programming or
- BIOL 11000 - Fundamentals Of Biology I or
- BIOL 11100 - Fundamentals Of Biology II

16 Credits

Mechanical Engineering Program Requirements

Milestone One: After the completion of two semesters, students should have met a 3.2 GPA/EAI or a holistic review for admission to Mechanical Engineering. *See notes section for more information*

Fall 2nd Year

- ME 20000 - Thermodynamics I ♦
- ME 27000 - Basic Mechanics I ♦
- ME 29000 - Global Engineering Professional Seminar
- MFET 16300 - Graphical Communication And Spatial Analysis ♦
- MA 26100 - Multivariate Calculus

- PHYS 24100 - Electricity And Optics ♦ or
- PHYS 27200 - Electric And Magnetic Interactions ♦

16-17 Credits

Spring 2nd Year

- ME 26300 - Introduction To Mechanical Engineering Design, Innovation And Entrepreneurship
- ME 27400 - Basic Mechanics II
- MA 26200 - Linear Algebra And Differential Equations
- ECE 20001 - Electrical Engineering Fundamentals I ♦
- ECE 20007 - Electrical Engineering Fundamentals I Lab ♦
- General Education Elective I - Credit Hours: 3.00

17 Credits

Fall 3rd Year

- ME 30800 - Fluid Mechanics
- ME 32300 - Mechanics Of Materials
- ME 32301 - Mechanics Of Materials Laboratory
- ME 36500 - Measurement And Control Systems I
- MA 30300 - Differential Equations And Partial Differential Equations For Engineering And The Sciences
- General Education Elective II - Credit Hours: 3.00

16 Credits

Spring 3rd Year

- ME 30801 - Fluid Mechanics Laboratory
- ME 35400 - Machine Design
- ME 37500 - Measurement And Control Systems II
- Mechanical Engineering Elective I - Credit Hours: 3.00
- Technical Elective I - Credit Hours: 3.00
- General Education Elective III - Credit Hours: 3.00

16 Credits

Fall 4th Year

- ME 31500 - Heat And Mass Transfer
- MSE 23000 - Structure And Properties Of Materials
- ME Elective II - Credit Hours: 3.00
- Technical Elective II - Credit Hours: 3.00
- World Culture Elective - Credit Hours: 3.00

16 Credits

Spring 4th Year

Milestone Two: *see information in the notes section.*

- ME 46300 - Engineering Design
- Economics Selective - Credit Hours: 3.00
- ME Elective III - Credit Hours: 3.00
- Technical Elective III - Credit Hours: 3.00
- General Education Elective IV - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

18 Credits

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program".

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements.

Consultation with an advisor may result in an altered plan customized for an individual student.

The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.