MECHANICAL ENGINEERING, BSME

Requirements for Students Matriculating in or before Academic Year 2019-2020. Learn more about University Academic Regulation 3.1 (http://catalog.okstate.edu/university-academic-regulations/#matriculation).

Minimum Overall Grade Point Average: 2.50
Total Hours: 121

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 1111</td>
<td>Introduction to Engineering</td>
<td>1</td>
</tr>
<tr>
<td>ENGR 1332</td>
<td>Engineering Design with CAD for MAE</td>
<td>2</td>
</tr>
<tr>
<td>ENGR 1412</td>
<td>Introductory Engineering Computer Programming</td>
<td>2</td>
</tr>
<tr>
<td>ENSC 3233</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>ENSC 3313</td>
<td>Materials Science</td>
<td>3</td>
</tr>
<tr>
<td>MAE 3013</td>
<td>Engineering Analysis and Methods I</td>
<td>3</td>
</tr>
<tr>
<td>MAE 3113</td>
<td>Measurements and Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>MAE 3233</td>
<td>Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>MAE 3324</td>
<td>Mechanical Design I</td>
<td>4</td>
</tr>
<tr>
<td>MAE 3403</td>
<td>Computer Methods in Analysis and Design</td>
<td>3</td>
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<tr>
<td>MAE 3524</td>
<td>Thermal Fluids Design</td>
<td>4</td>
</tr>
<tr>
<td>MAE 3724</td>
<td>Dynamic Systems Analysis and Introduction to Control</td>
<td>4</td>
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<tr>
<td>IEM 3503</td>
<td>Engineering Economic Analysis</td>
<td>3</td>
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</table>

Select 7 hours of the following 2 categories, selecting one course from each category so that both categories are represented:

**Category I (Realization):**
- MAE 4243: Aerospace Propulsion and Power
- MAE 4263: Energy Conversion Systems
- MAE 4353: Mechanical Design II
- MAE 4363: Advanced Methods in Design
- MAE 4513: Aerospace Structures I
- MAE 4623: Biomechanics
- MAE 4703: Design of Indoor Environmental Systems
- MAE 4713: Thermal Systems Realization

**Category II (Capstone Design):**
- MAE 4344: Design Projects
- MAE 4354: Aerospace Systems Design for Mechanical Engineers
6 hours of MAE electives to be selected from the following list, or from courses in the Category I listed above, but not used to satisfy the category requirement:

- MAE 3033  Design of Machines and Mechanisms
- MAE 3123  Manufacturing Processes
- MAE 3223  Thermodynamics II
- MAE 3253  Applied Aerodynamics and Performance
- MAE 3293  Fundamentals of Aerodynamics
- MAE 4053  Automatic Control Systems
- MAE 4063  Mechanical Vibrations
- MAE 4273  Experimental Fluid Dynamics
- MAE 4313  Advanced Processing of Engineered Materials
- MAE 4333  Mechanical Metallurgy
- MAE 4583  Corrosion
- MAE 4733  Mechatronics Design

6 hours of MAE electives to be selected from the following list, or from courses in the Category I listed above, but not used to satisfy the category requirement:

- MAE 3033  Design of Machines and Mechanisms
- MAE 3123  Manufacturing Processes
- MAE 3223  Thermodynamics II
- MAE 3253  Applied Aerodynamics and Performance
- MAE 3293  Fundamentals of Aerodynamics
- MAE 4053  Automatic Control Systems
- MAE 4063  Mechanical Vibrations
- MAE 4273  Experimental Fluid Dynamics
- MAE 4313  Advanced Processing of Engineered Materials
- MAE 4333  Mechanical Metallurgy
- MAE 4583  Corrosion
- MAE 4733  Mechatronics Design

3 hours of technical elective to be selected from the following list (or from courses in the Category I listed above, but not used to satisfy the category requirement):

3000-level or above from:
- BAE
- CHE
- CIVE
- ECEN
- IEM
- MAE
- PETE engineering
- BCOM 3223  Oral Communication
- Biological Science
- Biochemistry
- Chemistry
- Computer Science
- Legal Studies in Business
- MATH 3303  Advanced Perspectives on Functions and Modeling for Secondary Teachers
- MGMT 3133  Developing Leadership Skills
- Geology
- PHIL 3803  Business Ethics (H)
- PHIL 3833  Biomedical Ethics (H)
- Physics
- 4000-level or above courses from:
- Math
- Mechanical Engineering Technology
- MGMT 4073  Management and Ethical Leadership
- MGMT 4533  Leadership Dynamics
- Statistics

<table>
<thead>
<tr>
<th>Hours Subtotal</th>
<th>49</th>
</tr>
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<tbody>
<tr>
<td>Total Hours</td>
<td>121</td>
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1. Courses that must be completed prior to admission to professional school with a grade of "C" or higher

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### Admission to Professional School (required)

- Refer to the OSU Catalog corresponding to your matriculation date for detailed admissions requirements.

### Graduation Requirements

1. A minimum GPA of 2.50 is required in all MAE prefix Courses.
2. A minimum overall GPA of 2.50 is required in 4000-level MAE prefix courses.
3. A ‘C’ or better is required in each course that is a prerequisite for a major course taken.
4. The major engineering design experience, capstone course, is satisfied by MAE 4344 Design Projects or MAE 4354 Aerospace Systems Design for Mechanical Engineers.

### Additional State/OSU Requirements

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.
- Degrees that follow this plan must be completed by the end of Summer 2025.