AEROSPACE ENGINEERING, BSAE

Requirements for Students Matriculating in or before Academic Year 2021-2022. Learn more about University Academic Regulation 3.1 (http://catalog.okstate.edu/university-academic-regulations/#matriculation).

Minimum Overall Grade Point Average: 2.00
Total Hours: 123

### Code | Title | Hours
--- | --- | ---
**General Education Requirements**
All General Education coursework requirements are satisfied upon completion of this degree plan

*English Composition*
See Academic Regulation 3.5 (http://catalog.okstate.edu/university-academic-regulations/#english-composition)
ENGL 1113 | Composition I | 3
or ENGL 1313 | Critical Analysis and Writing I | 1
Select one of the following: 3
ENGL 1213 | Composition II | 1
ENGL 1413 | Critical Analysis and Writing II | 1
ENGL 3323 | Technical Writing | 1

*American History & Government*
Select one of the following: 3
HIST 1103 | Survey of American History | 3
HIST 1483 | American History to 1865 (H) | 3
HIST 1493 | American History Since 1865 (DH) | 3

*Analytical & Quantitative Thought (A)*
MATH 2144 | Calculus I (A) | 1
MATH 2153 | Calculus II (A) | 3
MATH 2163 | Calculus III | 3
MATH 2233 | Differential Equations | 3

*Humanities (H)*
Courses designated (H) 6
Natural Sciences (N)
Must include one Laboratory Science (L) course
CHEM 1414 | General Chemistry for Engineers (LN) | 1
or CHEM 1515 | Chemistry II (LN) | 4
PHYS 2014 | University Physics I (LN) | 1

*Social & Behavioral Sciences (S)*
Course designated (S) 3

**Hours Subtotal** 42

**Diversity (D) & International Dimension (I)**
May be completed in any part of the degree plan
Select at least one Diversity (D) course
Select at least one International Dimension (I) course

**College/Departmental Requirements**

*Basic Science*
PHYS 2114 | University Physics II (LN) | 1
Select one of the following: 3

### Code | Title | Hours
--- | --- | ---
ASTR 1013 | The Solar System (N) | 1
ASTR 1023 | Stars, Galaxies, Universe (N) | 1
BIOL 1114 | Introductory Biology (LN) | 1
CHEM 3053 | Organic Chemistry I | 1
GEOL 1114 | Physical Geology (LN) | 1
GEOL 3413 | Petroleum Geology for Engineers | 1
PHYS 3213 | Optics | 1
PHYS 3313 | Introduction to Semiconductor Device Physics | 1
PHYS 3713 | Modern Physics | 1

*Engineering and Engineering Science*
ENGR 1111 | Introduction to Engineering | 1
ENGR 1332 | Engineering Design with CAD for MAE | 2
ENGR 1412 | Introductory Engineering Computer Programming | 1
ENGR 2421 | Engineering Data Acquisition Controls Lab | 1
ENSC 2113 | Statics | 3
ENSC 2123 | Elementary Dynamics | 3
ENSC 2141 | Strength of Materials Lab | 1
ENSC 2143 | Strength of Materials | 3
ENSC 2213 | Thermodynamics | 3
ENSC 2613 | Introduction to Electrical Science | 3

**Hours Subtotal** 29

*Upper Division Major Requirements*
ENSC 3231 | Fluids and Hydraulics Lab | 1
ENSC 3313 | Materials Science | 3
MAE 3013 | Engineering Analysis and Methods I | 3
MAE 3153 | Introduction to MAE Design | 3
MAE 3253 | Applied Aerodynamics and Performance | 3
MAE 3293 | Fundamentals of Aerodynamics | 3
MAE 3333 | Fundamental Fluid Dynamics | 3
MAE 3324 | Mechanical Design I | 4
MAE 3403 | Computer Methods in Analysis and Design | 3
MAE 3724 | Dynamic Systems Analysis and Introduction to Control | 4
MAE 4223 | Aerospace Engineering Laboratory | 3
MAE 4243 | Aerospace Propulsion and Power | 3
MAE 4283 | Aerospace Vehicle Stability and Control | 3
MAE 4374 | Aerospace System Design | 4
MAE 4513 | Aerospace Structures | 3
IEM 3503 | Engineering Economic Analysis | 3

*Upper Division Elective Requirements*
3 hours of technical elective to be selected from the following list: 3

3000-level or above from:
- BAE, CHE, CIVE, ECEN, IEM, MAE, PETE engineering
- BCOM 3223 | Oral Communication | 1
- MATH 3303 | Advanced Perspectives on Functions and Modeling for Secondary Teachers | 1
- MGMT 3133 | Developing Leadership Skills | 1
- PHIL 3803 | Business Ethics (H) | 1
- PHIL 3833 | Biomedical Ethics (H) | 1

4000-level or above courses from:
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MGMT 4073</td>
<td>Management and Ethical Leadership</td>
</tr>
<tr>
<td>MGMT 4533</td>
<td>Leadership Dynamics</td>
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Or from MATH, MET, or STAT

<table>
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<tr>
<th>Hours Subtotal</th>
<th>52</th>
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<tbody>
<tr>
<td>Total Hours</td>
<td>123</td>
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1. MAE requires grades of "C" or better in all prerequisite courses, and their prerequisites.
2. Grades of "C" or higher in all Upper Division Major Requirements courses

**Graduation Requirements**

1. A minimum Technical GPA of 2.00. The Technical GPA is calculated from all courses in the curriculum with a prefix belonging to the degree program, or substitutions for these courses.
2. A "C" or better is required in each course that is designated with footnote 1 and footnote 2. In cases where there is a choice on a course that has footnote 1, the footnote applies to both courses.
3. The major engineering design experience, capstone course, is satisfied by MAE 4374 Aerospace System Design.

**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 2027.