Fundamentals of Aerodynamics

AEROENG 3560

Description / Conditions

Transcript Abbreviation:
(N/A)

Course Description:
Fundamentals of viscous and inviscid flow encountered in aircraft aerodynamics.

Course Levels:
Undergraduate (1000-5000 level)

Designation:
Required

General Education Course:
(N/A)

Cross-Listings:
(N/A)

Course Detail

Credit Hours (Minimum if “Range” selected):
3.00

Max Credit Hours:
(N/A)

Select if Repeatable:
Off
Maximum Repeatable Credits:
(N/A)

Total Completions Allowed:
(N/A)

Allow Multiple Enrollments in Term:
No

Course Length:
14 weeks (autumn or spring)
12 weeks (summer only)

Off Campus:
Never

Campus Location:
Columbus

Instruction Modes:
In Person (75-100% campus; 0-24% online)

Prerequisites and Co-requisites:
Prereq: 2200 and 2405; and Math 2174, or 2568 and 2415; and enrollment as AeroEng-BS student.

Electronically Enforced:
No

Exclusions:
Not open to AeroEng pre-majors.

Course Goals and Learning Objectives

Course Goals / Objectives:
Fundamentals of the mathematical description of fluid motion, including conservation laws
Enable students to use basic tools of aerodynamic analysis
Train students to model and solve problem involving fluid flow

Check if concurrence sought:
No

Contact Hours
Contact Hours:

<table>
<thead>
<tr>
<th>Topic</th>
<th>LEC</th>
<th>REC out-of-class</th>
<th>REC in-class</th>
<th>Weekly LAB out-of-class</th>
<th>Weekly LAB in-class</th>
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</thead>
<tbody>
<tr>
<td>Total</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</table>

Grading and Texts

Grading Plan:
Letter Grade

Course Components:
Lecture

Grade Roster Component:
Lecture

Credit by Exam (EM):
No

Grades Breakdown:

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Percent</th>
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<tbody>
<tr>
<td>No Grade Breakdown Entered.</td>
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Representative Textbooks and Other Course Materials:

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Year</th>
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</thead>
<tbody>
<tr>
<td>No Textbooks and Other Course Materials Entered.</td>
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ABET Student Learning Outcomes

ABET-CAC Criterion 3 Outcomes:
(N/A)

ABET-ETAC Criterion 3 Outcomes:
(N/A)
### ABET-EAC Criterion 3 Outcomes:

<table>
<thead>
<tr>
<th>Contribution Level</th>
<th>Outcome Description</th>
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<tbody>
<tr>
<td>Significant</td>
<td>an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics</td>
</tr>
<tr>
<td>Substantial</td>
<td>an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors</td>
</tr>
<tr>
<td>Substantial</td>
<td>an ability to communicate effectively with a range of audiences - pre-2019 EAC SLO (g)</td>
</tr>
<tr>
<td>Some</td>
<td>an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts</td>
</tr>
<tr>
<td>Some</td>
<td>an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions</td>
</tr>
<tr>
<td>Some</td>
<td>an ability to acquire and apply new knowledge as needed, using appropriate learning strategies</td>
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### Embedded Literacies (UG courses only)

**Embedded Literacies Info:**

- **Fundamentals of Aerodynamics - 4/4**

### Attachments / Additional Notes or Comments

**Attachments:**
(N/A)

**Additional Notes or Comments:**
(N/A)