Design of Atmospheric Flight Vehicles I

AEROENG 4515

Description / Conditions

Transcript Abbreviation:
Prelm Des Aircraft

Course Description:
Conceptual and preliminary design, methodology, case studies, introduction of design software, group planning for subsequent design effort: design of atmospheric flight vehicles and components.

Course Levels:
Undegraduate (1000-5000 level)

Designation:
Required

Course Detail

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

Max Credit Hours:
3.00

Check if Repeatable:
Off

Maximum Repeatable Credits:
3.00

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: 3543 (543) and 3570 (530 and 570) and 3521 (521) and 3580 (580), and Sr standing, and enrollment as AeroEng-BS student (No AAE pre-majors can enroll in this class). Prereq or concur: 4550 (550).

Electronically Enforced:
No

Exclusions:
Not open to students with credit for 515.01 or 516.01.

Course Goals and Learning Objectives

Course Goals / Objectives:
Provide students with conceptual and preliminary aircraft design experience  
Foster multidisciplinary thought processes and collaborations  
Train students in effective teamwork 
Refine students' technical communication skills through written reports and presentations

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 in-class</th>
<th>Weekly LAB out-of-class</th>
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<td>Overview of the design process</td>
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<tr>
<td>Vehicle Specifications: Mission Profile / RFP / FAR specs</td>
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<td>Aerodynamics review, wing and airfoil selection</td>
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<tr>
<td>Sizing: Fuselage, Tail, Engine</td>
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<td>Propulsion integration</td>
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Grading and Texts

Grading Plan:
Letter Grade

Course Components:
Lecture
Lab

Grade Roster Component:
Lecture

Credit by Exam (EM):
No

Grades Breakdown:

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<td>Final Presentation</td>
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<tr>
<td>Final Report</td>
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<tr>
<td>Homework</td>
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<td>Quizzes</td>
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Representative Textbooks and Other Course Materials:

<table>
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<th>Title</th>
<th>Author</th>
<th>Year</th>
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ABET Student Learning Outcomes

Embedded Literacies (UG courses only)

Embedded Literacies Info:

Attachments / Additional Notes or Comments

ABET Syllabus:
AEROENG_4515_ABET.pdf