Course Description:
Energy Based Analysis: Principles of virtual work and minimum potential energy; rayleigh-ritz and finite element methods; structural stability; thermo-elasticity; structural dynamics; laboratory demonstrations.

Course Goals / Objectives:
Introduce undergraduate aerospace engineering students to fundamental concept of energy based approaches with applications to approximate methods (e.g., Rayleigh-Ritz and the Finite Element Method), structural stability, and structural dynamics

Grades Breakdown:

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Homework</td>
<td>30%</td>
</tr>
<tr>
<td>Mid-Term Quizzes</td>
<td>30%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>40%</td>
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</tbody>
</table>

Designation:
Required

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

Representative Textbooks and Other Course Materials:

<table>
<thead>
<tr>
<th>Title</th>
<th>Author Year</th>
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</thead>
<tbody>
<tr>
<td>Aircraft Structures for Engineering Students, Fourth Edition</td>
<td>Megson</td>
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