Course number, title: ME 285 Computer Aided Design Tools

Required or elective: Elective

Course (catalog) description: Advanced 3-D Solid Modeling, Finite Element Modeling and Mechanism Modeling.

Prerequisite(s): ME 280

Textbook(s) and/or other required material: No textbook

Class/Lab schedule: Total Credits: 3 Lecture/Laboratory/Discussion Hours: 0/6/0

Topics covered:
1. Advanced 3-D Solid Modeling
2. Finite Element Modeling and Analysis Using Computer Software
3. Mechanism Design and Analysis Using Computer Software

Course learning objectives:
For the student to be:
1. familiar with the advanced operation of 3-D Solid Modeling software,
2. able to perform advanced geometric constructions,
3. able to communicate design and/or engineering ideas through engineering graphics and Computer Aided Design tools

Relationship of course to ME program outcomes:
The following measurement standard is used to evaluate the relationship between the course outcomes and the educational-program outcomes:
2 = Strong Emphasis, 1 = Some Emphasis, 0 = Little or No Emphasis.
(a) an ability to apply knowledge of mathematics, science, and engineering—1
(b) an ability to design and conduct experiments, as well as to analyze and interpret data—0
(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability—1
(d) an ability to function on multidisciplinary teams—1
(e) an ability to identify, formulate, and solve engineering problems—0
(f) an understanding of professional and ethical responsibility—1
(g) an ability to communicate effectively—1
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context —0
(i) a recognition of the need for and the ability to engage in life-long learning—1
(j) a knowledge of contemporary issues—1
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice—2
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<thead>
<tr>
<th>Contribution to professional component:</th>
<th>0% Engineering Science 20% Engineering Design 80% Other</th>
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<tbody>
<tr>
<td>Person(s) who prepared this description</td>
<td>Robert Chalou</td>
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<tr>
<td>Date of Preparation</td>
<td>2010, updated 2014</td>
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