

# ENGR 3300 – Mechanism Design I

## Fall 2003, TR 2 – 3:15 pm (Room 316)

### **Instructor:**

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### **Texts:**

Machine Design: An Integrated Approach, 2<sup>nd</sup> Edition. By “*Robert L. Norton*”, Prentice Hall.  
Supplements will be provided by the instructor.

### **Laboratory Hours:**

CAD: Pro/Engineer & Pro/Mechanica will be taught during the lab hours.  
Laboratory assignments will be given and graded periodically.  
Late assignments will incur a 10% per day penalty. Assignments are due during lab.

### **Homework:**

CAE: Using MathCad, Matlab, Mathematica, Maple or TKSolver.  
Homework assignments will be given and graded periodically.  
Late assignments will incur a 10% per day penalty. Assignments are due during class.

### **Team Project:**

Students will work in teams to complete a design project. The output will include a presentation, a written report and a poster describing the results of the project. Further details will be provided.

**Attendance Policy:** Attendance of classes and labs is mandatory. Students who are regularly absent from class will not be included in any adjustment (curving) of the final grades. If a student has a valid excuse for missing a class, they must inform the instructor beforehand.

Cellular phones must be turned OFF during class/lab. Repeated disruptions will count as absences.

### **Prerequisites:**

ENGR 2130: Dynamics  
ENGR 2140: Strength of Materials

### **Courses that require this course as a prerequisite:**

ENGR 4300: Mechanism Design II

**Overview:**

The specific topics of lectures and laboratories are subject to change.

<b>Lectures</b>	<b>Number of classes</b>
Introduction	1.5
Load determination	4.5
Stress, strain & deflection	6
Linkages	4
Materials & processing	6
Failure theory	6
Exam & review	2
<b>Total classes</b>	<b>30</b>

<b>Labs</b>	<b>Number of labs</b>
Introduction to Pro/Engineer	1
Part: Extrusions	2
Part: Revolutions	1
Part: Sweep & Blend	2
Drawing	2
Assembly	2
Pro/Mechanica - Pendulum	1
Pro/Mechanica - Mower	2
Presentation	1
<b>Total labs</b>	<b>14</b>

**Grading:**

Note: Students who are regularly absent from class will not be included in any adjustment (curving) of the final grades.

Semester grades will be computed as follows:

Homework	20%
Labs assignments	20%
Design projects	20%
Exam 1	10%
Exam 2	10%
Final	20%
<b>Total</b>	<b>100%</b>