# MENG231 – Engineering Mechanics

<table>
<thead>
<tr>
<th>Department:</th>
<th>Mechanical Engineering</th>
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<tbody>
<tr>
<td>Program Name:</td>
<td>Mechanical Engineering</td>
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<tr>
<td>Program Code:</td>
<td>23</td>
</tr>
<tr>
<td>Course Number:</td>
<td>MENG231</td>
</tr>
<tr>
<td>Credits:</td>
<td>3 Cr</td>
</tr>
<tr>
<td>Year/Semester:</td>
<td>2013-2014 Fall</td>
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- **Required Course**
- **Elective Course**
- **Service Course**

**Prerequisite(s):**

**Catalog Description:**

**Course Web Page:**
http://me.emu.edu.tr/ozada/courses.htm

**Textbook(s):**

**Indicative Basic Reading List:**

**Topics Covered and Class Schedule:**
(4 hours of lectures per week)

- **Week 1**
  - Introduction to Mechanics
- **Week 2**
  - Statics of Particles
- **Week 3**
  - Statics of Particles
- **Week 4**
  - Rigid Body Forces
- **Week 5**
  - Rigid Body Analysis
- **Week 6**
  - Rigid Body Analysis
- **Week 7**
  - Midterm Examination Week
- **Weeks 8**
  - Midterm Examination Week
- **Week 9**
  - Structure Analysis
- **Week 10**
  - Structure Analysis
- **Weeks 11**
  - Dynamics
- **Week 12**
  - Dynamics
- **Week 13**
  - Dynamics
- **Week 14**
  - Dynamics and Vibration
- **Week 15**
  - Final Examination Week Starts

**Course Learning Outcomes:**

At the end of the course, student must be able to

1. Understand the principles of Newton’s laws and their application to the real life physical problems that require knowledge of the relationship between force and motion.
2. Understand the vector concepts
3. Develop the analytical skills to analyze static and dynamic problems.
4. Developing equations of motions for simple systems of particles and rigid bodies.
<table>
<thead>
<tr>
<th>Assessment</th>
<th>Method</th>
<th>No</th>
<th>Percentage</th>
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<tbody>
<tr>
<td></td>
<td>Midterm Exam(s)</td>
<td>1</td>
<td>35%</td>
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<tr>
<td></td>
<td>Homework(s)</td>
<td>1</td>
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<tr>
<td></td>
<td>Quiz</td>
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<td>Final Examination</td>
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**Contribution of Course to Criterion 5**

Credit Hours for:
- Mathematics & Basic Science : 0
- Engineering Sciences and Design : 3
- General Education : 0

**Relationship of Course to Program Outcomes**
The course has been designed to contribute to the following program outcomes:
(a) apply knowledge of mathematics, science, and engineering
(e) identify, formulate, and solve engineering problems
(k) use the techniques, skills, and modern engineering tools necessary for engineering practice

**Prepared by:** Assist. Prof. Neriman Ozada  
**Date Prepared:** 30 September 2013