Course:

Design of Machine Elements II

Instructor: Dr. M. Asgari

Time: Saturday and Wednesday, 13:30-14:45.

Office hours: Saturdays, 15-17, Wednesdays, 10:30-12:00

T.A hours: Mondays, 12:00-13:00

Web site: http://wp.kntu.ac.ir/asgari/courses.html

Syllabus (Main Topics):

- Introduction and Basic concepts of Mechanical Engineering Design

- Rolling-Contact Bearings
  - Bearing Types
  - Selection of Different Types of Roller Bearings
  - Bearing designation system
  - Mounting and Enclosure

- Lubrication and Journal Bearings
  - Types of Lubrication
  - Hydrodynamic Theory
  - Bearing Types
  - Pressure-Fed Bearings

- Gears
  - General Nomenclature and Fundamentals
  - Analysis and Design of Spur and Helical Gears
  - Analysis and Design of Bevel and Worm Gears

- Clutches and Brakes
  - Types of Clutches and Brakes
  - Analysis of Different Types of Clutches and Brakes
  - Energy Considerations and Temperature Rise
  - Flywheels

- Flexible Mechanical Elements
  - Types of Belts
  - Roller Chain
  - Wire Rope

Reference Texts:


- Related Standards and Manufacturers’ Catalogues

- Class Notes on Selected Subjects.
Additional References:

- مهندس اخلاقی، طراحی اجزای ماشین، انتقال نیرو ۲ جلد، چاپ دوم، انتشارات دانشگاه صنعتی امیرکبیر تهران، ۱۳۹۱
- M. F. Spotts, Design of Machine Elements,
- Boris M. Klebanov, Machine Elements: Life and Design 2007,

Grading Policy:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Homework</td>
<td>5%</td>
</tr>
<tr>
<td>Quiz: 6-8 short quizzes</td>
<td>15%</td>
</tr>
<tr>
<td>Project: Technical report, professional engineering drawings</td>
<td>20-30%</td>
</tr>
<tr>
<td>Two Midterm Exams: Open book</td>
<td>40%</td>
</tr>
<tr>
<td>Final Exam: Open book</td>
<td>20%</td>
</tr>
</tbody>
</table>

* A high quality project may have up to 10% extra grade.
* A minimum grade of 8 from quizzes and exams is mandatory for passing the course.
* If the Project is not submitted, course grade will directly be F.
* Late homework or late project will not be graded.

Ethics:

- All work prepared and submitted in this course in the form of projects and problem solutions are expected to be original and produced by the submitting student.
- Any portion that may have been borrowed from a previous work must be clearly identified and referenced. The origin of each figure, photograph, table as well as text used from other sources must be clearly identified.
- Cheating or copying on homeworks or the project, are grounds for failing the course.

"You cannot teach a man anything, you can only help him find it within himself."

Galileo Galilei