



**Philadelphia University**  
**Faculty of Engineering**  
**Department of Mechanical Engineering**  
**Second semester, 2008/2009**

**Course Syllabus**

<b>Course Title:</b> Engineering Mechanics :Statics	<b>Course code:</b> 640231+620211
<b>Course Level:</b> 2th year	<b>Course prerequisite (s) and/or co requisite (s):</b> Mathematics
<b>Lecture Time:</b> 12-13:10 Sun/Tues/Thurs	<b>Credit hours:</b> 3

**Academic Staff Specifics**

<b>Name</b>	<b>Rank</b>	<b>Office Number and Location</b>	<b>Office Hours</b>	<b>E-mail Address</b>
<b>Dr. A. Qandil</b>	<b>Assis. Prof</b>	<b>E Department of Mechatronics</b>	<b>13:30-15:00</b>	<b>Qand4@Hotmail.it</b>

**Course module description:**

This course provides the material needed for the basic understanding of the theory and applications of rigid body statics. This course is standard requirement in any engineering as well as in most engineering technology disciplines.

**Course module objectives:**

- Understand Statics Fundamentals
- Analyze Forces and Calculate Equilibriums for rigid bodies
- Develop Free Body Diagrams
- Calculate centers, moments of inertia, and work
- Gain a working insight into the design and analysis of practical static structures.

**Method of instruction:**

Lectures, class demonstrations, chalkboard, digital and digitized media, presentation, discussions, in class problem solving, computer simulation, homework assignment of problem.

### Course/ module components

- **Books**  
**Title: Engineering Mechanics: Statics**  
**Author: R.CHibbeler**  
**Publisher: Prentice Hall**  
**Edition : Tenth edition, 2004**
- **Support material (s)** Lecture notes soft copy (vcs, acs, etc).
- **Study guide (s)**
- **Homework and laboratory guide (s) .**

### Teaching methods:

- 3 Lectures a week
- 1-2 Appointments for tutorials and problem solving after each chapter

### Assessment instruments

- Short reports and/ or presentations, and/ or Short research projects
- Quizzes.
- Home works
- Final examination: 50 marks

<u>Allocation of Marks</u>	
<b>Assessment Instruments</b>	<b>Mark</b>
First examination	<b>20</b>
Second examination	<b>20</b>
Final examination: 50 marks	<b>50</b>
Reports, research projects, Quizzes, Home works, Projects	<b>10</b>
Total	<b>100</b>

### Learning outcomes:

1. Provide the best learning environment and concepts and technical education needed to achieve the above indicated student objectives and for a career in Engineering Technology.
2. Demonstrate the knowledge and dexterity to perform effectively in the workplace with the communication skills needed to deal with fellow workers, clients and public.
3. Emphasize the understanding of societal implications of engineering decisions and design in both a local and global context and the ethical training to evaluate those implications.
4. Encourage class participation, questions and class related discussions.
5. Incite critical analysis in the solution of problem and application of innovation in technology.
6. Stimulate team work inside and outside the classroom.
7. Keep students informed of their progress during the semester.
8. Provide support inside and outside the classroom.

## Documentation and academic honesty

- Documentation style (with illustrative examples)
- Protection by copyright
- Avoiding plagiarism.

## Course/module academic calendar

<b>week</b>	<b>Basic and support material to be covered</b>	<b>Homework/reports and their due dates</b>
(1)	General Principles Tutorial and problem solving	Selected typical Problems
(2)	Force Vectors Tutorial and problem solving	Selected typical Problems
(3)	Equilibrium of a Particle Tutorial and problem solving	Selected typical Problems
(4)	Force System Resultants Tutorial and problem solving	Selected typical Problems
(5)	Force System Resultants Tutorial and problem solving	Selected typical Problems
(6)	Equilibrium of a Rigid Body Tutorial and problem solving	Selected typical Problems
(7) <b>Mid Examination</b>	Equilibrium of a Rigid Body Tutorial and problem solving	Selected typical Problems
(8)	Structural Analysis Tutorial and problem solving	Selected typical Problems
(9)	Structural Analysis Tutorial and problem solving	Selected typical Problems
(10)	Internal Forces Tutorial and problem solving	Selected typical Problems
(11) <b>Mid Examination</b>	Friction Tutorial and problem solving	Selected typical Problems
(12)	Center of Gravity and Centroid Tutorial and problem solving	Selected typical Problems
(13)	Center of Gravity and Centroid Tutorial and problem solving	Selected typical Problems
(14)	Moments of Inertia Tutorial and problem solving	Selected typical Problems
(15)	Moments of Inertia Tutorial and problem solving	Selected typical Problems
(16)	Virtual Work Tutorial and problem solving	Selected typical Problems
<b>Final Examination</b>	Tutorial and problem solving	Selected typical Problems

### **Expected workload:**

**On average students need to spend 2 hours of study and preparation for each 50-minute lecture/tutorial.**

### **Attendance policy:**

**Absence from lectures and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.**

### **Module references**

#### **Books**

- **Das, Kassimali, Sami , “Engineering Mechanics Statics”, IRWIN., 1994.**
- **James R.Ogden Mechanics: Statics - Dynamics (Rea's Problem Solvers) Powells Books**
- **F.P.Beer, E.R.Johnston.Jr..and E.R.Eisenberg.Vector Mechanics for Engineers- Statics,8 edition,WCB McGraw-Hill,2007**

#### **Websites**

**<http://www.yourotherteacher.com>**

ENGINEERING MECHANICS statics and Dynamics Fourteenth Edition Ltd. Pearson Education, Inc., Hoboken, New Jersey Printed in the United States of America 10 9 8 7 6 5 4 3 2 1 ISBN-10: 0-13-391542-5 0-13-391892-0 ISBN-13: 978-0-13-391542-6 978-0-13-391892-2 to the Student With the hope that this work will stimulate an interest in Engineering Mechanics and provide an acceptable guide to its understanding. Engineering Mechanics - Statics Chapter 2 The beam is to be hoisted using two chains Meriam Kraige Engineering Mechanics Statics 6th Edition book. 608 Pages 2012 60.61 MB 11,121 Downloads. Meriam Kraige Engineering Mechanics Statics 6th Edition book dynstab2/ThePirateBay Engineering Mechanics Solutions Statics ( 5 th Edition ). 984 Pages 2016 45.86 MB 10,939 Downloads New! Engineering Mechanics Solutions Statics ( 5 th Edition ) J L Meriam|Kraige Download Free PDF. Engineering Mechanic Statics, R.C. Hibbeler, 12th book. Free PDF. Download with Google. Engineering Mechanics Statics and Dynamics. By Abnish Dhiman. Structural Analysis Aslam Kassimali 20190625 7138 kpvaaz.