**JORDAN UNIVERSITY OF SCIENCE & TECHNOLOGY**
**MECHANICAL ENGINEERING DEPARTMENT**
**ME 211 Statics**
**_____ Semester**

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**Catalog Data- 2013 :** **3 Credit hours (3-0-3)**
Force vectors and resultant. Free-body diagram of forces and equilibrium of particles and rigid bodies. Moment of a force about a point and about an axis. Equilibrium of rigid body. Analysis of trusses and frames. Shear forces diagrams and bending moment diagrams. Center of area and moment of inertia of an area.

**Text Book(s):** Engineering Mechanics – Statics, By R. C. Hibbeler, 13th SI Edition, Prentice Hall.

**References:** Students are urged to refer to the library and to use any other statics textbook(s) beside their textbooks.

**Instructor:** Dr. _____
Office: College of Engineering building _____

**Class Schedule:** _____

**Office Hours:** _____

**Attendance:** The attendance to this course is mandatory. Any student who miss 20% and above of the classes without acceptable reason will be given notice to withdraw from the class or his registration will be cancelled.

**Pre/Co-Requisites:** PHY 101

**Outcomes:** After successfully completing this course, the students should be able to:

1. Understand force vectors and resultants.
2. Determine the moment of a force about a point and an axis and the reactions of a rigid body.
3. Understand the analysis of distributed loads.
4. Perform analysis of trusses and frames.
5. Draw the shear and moment diagrams of a beam.
6. Understand the analysis of static friction problems.
7. Determine the centroid and moment of inertia of a composite area.

**Topics Covered:**

1. General Principles
2. Force Vectors
3. Equilibrium of a Particle
4. Force System Resultants
5. Equilibrium of a Rigid Body
6. Structural Analysis
7. Internal forces
8. Friction
9. Center of Gravity and Centroid
10. Moments of Inertia

**Evaluation:**

| | |
|---|---|
| 1st Exam : | 25-30 % |
| 2nd Exam : | 30% |
| Final Exam | 40 % |

| ABET a – k | √ | Mechanical eng. Program Outcomes |
|---|---|---|
| **a** | √ | a. Apply knowledge of mathematics, science, and engineering in practice. |
| **b** | | b. Design and conduct experiments as well as analyze and interpret data. |
| **c** | | c. Design a system, components, or process to meet desired needs. |
| **d** | | d. Function on multidisciplinary teams. |
| **e** | √ | e. Identify, formulate, and solve engineering problems. |
| **f** | | f. Understanding of professional and ethical responsibility of an engineer. |
| **g** | | g. Communicate effectively. |
| **h** | | h. Broad education to understand the impact of engineering solutions in global and societal context. |
| **i** | | i. Recognition of the need for, and possess the ability to engage in, lifelong learning. |
| **j** | | j. Possess knowledge of contemporary issues. |
| **k** | | k. Use the techniques, skills, and modern engineering tools necessary for engineering practice. |
| | | l. Adhere to safety rules and regulations. |

**ABET Category:**

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|---|---|---|
| Engineering Science | 3 | Credits |
| Engineering Design | 0 | Credits |

**Prepared By:** Dr. _____ **Date:** _____

**Rules and notes:**

1) Never come late to the classroom, you will disturb your mates and your instructor if you do so.
2) Turn OFF your cell phones during the class.
3) DO Not TALK during the class please, unless you have a question for me.
4) **No** quizzes make-ups.
5) Make up exams are not held without an official signed and approved excuse from the **Department Chairman**. Please understand that this is a university law and I have no control over it.
6) Office hours are the hours I dedicate for you to ask me. If you think they do not suit you, then we can still arrange for a time of our convenience by sending an e-mail to me (you should expect an approval from my side).