

## *Course Syllabus*

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### **Course Information**

<i>Course Number/Section</i>	MECH 2310.001.13S
<i>Course Title</i>	Statics and Introductory Dynamics
<i>Term</i>	Spring 2013
<i>Days &amp; Times</i>	Monday, Wednesday & Friday: 9:00-9:50 am ECSS 2.312

### **Professor Contact Information**

<i>Professor</i>	James M. Hilkert
<i>Office Phone</i>	972-883-4681
<i>Email Address</i>	hilkert@utdallas.edu
<i>Office Location</i>	ECSN 2.504
<i>Office Hours</i>	10:00 -11:30 am MWF, after class or by apt.

### **Teaching Assistant Contact Information**

<i>TA</i>	Kaveh Jalili
<i>Office:</i>	ECSS 3.619
<i>Email:</i>	kxj113130@utdallas.edu
<i>Office Hours:</i>	Mon 6:00-7:00pm, Tues 4:00-5:30 pm and Thu: 4:00-5:30 pm.

### **Course Pre-requisites, Co-requisites, and/or Other Restrictions**

Prerequisite: MECH 1208. Co-requisites: ENGR 2300, MATH 2420 and PHYS 2326/2126.

### **Course Description**

Lecture course. Course material includes static equilibrium of particles, trusses and machines, internal forces in structures, friction equivalent systems, centroids and mass properties with introduction to principles of work, energy, momentum, and particle dynamics.

### **Student Learning Objectives/Outcomes**

Introduce various types of force systems in equilibrium using the classical Newtonian mechanics that govern physical systems and apply these to common engineering applications. Specifically, the course will:

- Apply knowledge in mathematics, science and engineering to formulate and solve engineering problems in statics and introductory particle dynamics.
- Solve static equilibrium problems for systems modeled as particles.
- Solve static equilibrium problems for systems modeled as rigid bodies.
- Apply static equilibrium principles to model mechanisms and various friction effects.
- Apply principles of work, energy and momentum to systems in equilibrium.
- Calculate centroids and mass properties of engineering shapes and bodies.

### **Required Textbooks and Materials**

#### *Required Texts & Materials*

Engineering Mechanics: Statics & Dynamics, 13/e, Hibbeler, Prentice Hall.

Digital textbook and online homework are on [masteringengineering.com](http://masteringengineering.com) (with the purchase of a new textbook which contains the access code). Login Course Code: MEHILKERT41546

## Assignments & Academic Calendar

*Topics, Reading Assignments, Due Dates, Exam Dates Note: topics and dates are subject to adjustment at the discretion of the instructor.*

<b>Topic</b>	<b>Date / Week #</b>	<b>Text Ref</b>
Intro / Gen. Principles / Review of Newton's laws	1	Chap 1
Vectors & Forces	2	Chap 2
Equilibrium / Free body diagrams	3	Chap 3
Force Systems / Resultants / Moments	4	Chap 4
<b>Midterm exam I</b>	Feb 13	
Rigid body Equilibrium	6	Chap 5
Frames, Trusses & Machines	7	Chap 6
Internal forces	8	Chap 7
Frictional forces / Mechanisms	9	Chap 8
<b>Midterm exam II</b>	Mar 27	
Mass properties / Center of gravity / Fluid pressure	11	Chap 9
Mass properties / Inertia	12	Chap 10
Work / Energy	13	Chap 11
Particle Kinematics / Intro to Dynamics	14	Chap 12
Review / Special topics	15	
<b>Final Exam</b> ( location: ECSS 2.312)	May 8, 8:00-10:45am (per UTD sched)	comprehensive

*The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.*

Hard copy homework is due at the beginning of the class period on the scheduled due date. Web homework is due at the [masteringengineering.com](http://masteringengineering.com) website by 11:59pm on the due date or as assigned. Late homework will not be accepted without the consent of the instructor and will not be accepted except for unusual circumstances. Makeup exams will only be given in cases of verified emergencies. Students are expected to attend class and are responsible for the material in the text or other reading assignments as well as all material presented in the lectures.

### Grading Policy

Homework / Special Assignments	15%
2 Midterm exams (25%each)	50%
Final exam	35%
Overall Score	100%

### UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.