جامعة الملك فهد للبترول والمعادن
King Fahd University of Petroleum & Minerals

CE 201-Statics

Section – 06 (11:00 – 11:50 a.m.; UTR; Building 04 Room 101)
First Semester 2013- 2014 (Term-131)

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Office Hours: Posted
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Course (Catalog) Description

Basic concepts and principles of mechanics: vector algebra; equilibrium of particles in two and three dimensions; definition of moment and couple; reduction of systems of forces; equilibrium of rigid bodies; statically determinate structures including beams, trusses, frames, and machines; internal forces; shear and bending moment diagrams in beams; friction and its applications, centroid and center of gravity of lines areas, and volumes; moment of inertia and radius of gyration.

Course Prerequisite: PHYS 101 or PHYS 131

Textbook: Engineering Mechanics – Statics [12th Edition (SI Units); by: R. C. Hibbeler)

Course Supplement

WebCT: http://webcourses.kfupm.edu.sa
http://ce8.kfupm.edu.sa/webct/
Best Mechanics: http://web.mst.edu/~mecmovie/index.html
Hibbeler: http://www.pearsoned-asia.com/hibbeler/
University of Michigan: http://www.umich.edu/students/ELRC/me211

Date	Subject	Section	Lecture #
Sep. 01	Introduction	Ch 1	1
03	Scalars & Vectors	2.1-2.2	2
05	Vector Addition of Forces	2.3	3
08	Addition of Coplanar Forces	2.4	4
10	Cartesian Vectors	2.5-2.6	5
* 12	Position Vectors, Force along a Line	2.7-2.8	6
15	Dot Product	2.9	7
17	Equilibrium of a Particle & Free-Body Diagrams	3.1-3.2	8
19	Coplanar Force Systems	3.3	9

Date	Subject	Section	Lecture
22	Three-dimensional Force Systems	3.4	10
24	Three-Dimensional Force Systems	3.4	11
26	Moment of a Force (Scalar Formulation) and Cross Product	4.1-4.2	12
29	Moment of a Force (Vector Formulation) and Principle of Moments	4.3-4.4	13
Major Exam I ***(Tuesday, October 1, 2013, @ 07:00-09:00 PM, Building XX)*** **Chapters (1, 2 and 3)**			
Oct 03	Moment of a Force about a Specified Axis	4.5	14
06	Moment of a Couples	4.6	15
08	Simplification of a Force and Couple Systems	4.7	16
** 10	Reduction of a Simple Distributed Loading	4.9	17
Id Al-Adha Vacation (10^{th} - 20^{th} October, 2013)			
22	Conditions for Rigid-Body Equilibrium and FBD	5.1-5.2	18
24	Equations of Equilibrium (2-Dimensions)	5.3	19
27	Equations of Equilibrium and Two and Three-force Members	5.3, 5.4	20
29	FBD and Equations of Equilibrium (3-Dimensions)	5.5-5.6	21
31	Equations of Equilibrium (3-Dimensions)	5.6	22
Nov. 03	Simple Trusses and the Method of Joints	6.1- 6.2	23
05	The Method of Joints and Zero-Force Members	6.2, 6.3	24
07	The Method of Sections	6.4	25
10	Frames and Machines	6.6	26
*** 12	Frames and Machines	6.6	27
14	Frames and Machines	6.6	28
17	Internal Forces Developed in Structural Members	7.1	29
19	Internal Forces Developed in Structural Members	7.1	30
21	Shear and Moment Equations and Diagrams	7.2	31
24	Shear and Moment Equations and Diagrams	7.2	32
Major Exam II ***(Tuesday, November 26, 2013, @ 07:00-09:00 PM, Building XX)*** **Chapters (4, 5 and 6)**			
28	Shear and Moment Equations and Diagrams	7.2	33
Dec. 01	Characteristics of Dry Friction	8.1	34
03	Problems Involving Dry Friction	8.2	35
05	Problems Involving Dry Friction	8.2	36

Date	Subject	Section	Lecture #
Dec. 08	Problems Involving Dry Friction	8.2 (cont.)	37
****10	Center of Gravity, Center of Mass, and the Centroid of a Body (No Applications)	9.1	38
12	Composite Bodies	9.2	39
15	Composite Bodies	9.2 (cont.)	40
17	Definition of Moment of Inertia for Areas and Parallel-Axis Theorem for an Area	10.1-10.2	41
19	Moment of Inertia for Composite Areas	10.4	42
22	Moment of Inertia for Composite Areas	10.4 (cont.)	43
24	Review	---	44

*Last day for dropping course(s) without permanent record.
**Last day for dropping course(s) with a grade of (W) on 21/10/2013.
***Last day for withdrawal from all courses with a grade of (W) on 13/11/2013.
****Last day for withdrawal from all courses with a grade of (WP/WF) on 11/12/2013.

Grade Distribution

Assignment **(5%)**, Quizzes **(10%)**, and Attendance **(5%)**	= **20%**
First Major Exam (**Chapters 1, 2 and 3**)	= **20%**
Second Major Exam (**Chapters 4, 5 and 6**)	= **25%**
Final Exam (**Chapters 6, 7, 8, 9 and 10**)	= **35%**
Total	**= 100%**

Notes

Examinations

- All major and final exams are coordinated and graded for all sections commonly
- No make-up exams shall be allowed; conflicts with other multi-section courses are to be resolved by each student individually

Assignments

- Assignments will be assigned on **weekly basis**
- Each assignment must be submitted according to the **Standard Format**
- Each assignment must have a **cover page**

Attendance

- The **university regulations** regarding attendance are strictly adhered to
- **More than Nine (9)** unexcused absences will result in **(DN) grade**