King Fahd University of Petroleum & Minerals
**CIVIL ENGINEERING DEPARTMENT**

# CE 201 STATICS

**(Sections 1 & 2)**
**COURSE OUTLINE & SCHEDULE**
Second Semester 1432 / 2011 (1**02**)

***Text***: **Engineering Mechanics / Statics by R.C. Hibbeler (12th Ed.** SI Units)
***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

***Prerequisite: PHYS 101***


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| **Instructor**: Hamdan Al-Ghamedy | **Office**: 16-118 |
| **Phone #** : 2694 or 92694 | **Office Hours**: **Sat: 6-7 and 9-11 A.M.; Mon: 6-7 and 9-10 A.M. Wed: 6-7 A.M.** *You are welcome any other time; you can also make an appointment & ask by phone or e-mail.* |
| **e-mail** : hghamdi@kfupm.edu.sa | |
| **homepage** : **http://faculty.kfupm.edu.sa/ce/hghamdi** | |


| Lect. | Date (Hej - G) | | Subject | Section |
|---|---|---|---|---|
| 1 | S 9-3-32 | 12-2-11 | Introduction, Scalars & Vectors | 1.1-1.6, 2.1, 2.2 |
| 2 | M 11-3 | 14-2 | Vector Addition of Forces | 2.3 |
| 3 | W 13-3 | 16-2 | Addition of Coplanar Forces | 2.4 |
| 4 | S 16-3 | 19-2 | Cartesian Vectors | 2.5, 2.6 |
| 5 | M 18-3 | 21-2 | Position Vectors, Force along a Line | 2.7, 2.8 |
| 6 | W 20-3 | 23-2 | Dot Product | 2.9 |
| 7 | S 23-3 | 26-2 | Equilibrium of a Particle & Free-Body Diagrams | 3.1, 3.2 |
| 8 | M 25-3 | 28-2 | Coplanar Force System | 3.3 |
| 9 | W 27-3 | 2-3 | Three-Dimensional Force Systems | 3.4 |
| 10 | S 30-3 | 5-3 | Three-Dimensional Force Systems | 3.4 (cont.) |
| 11 | M 2-4 | 7-3 | Moment of a Force-Scalar, Cross Product | 4.1, 4.2 |
| 12 | W 4-4 | 9-3 | Moment of a Force-Vector, Principle of Moments | 4.3, 4.4 |
| 13 | S 7-4 | 12-3 | Moment about an axis | 4.5 |
| 14 | M 9-4 | 14-3 | Moment of a couple | 4.6 |
| **15** | **T 10-4** | **15-3** | **EXAM # 1 (7:00 – 9:00 P.M.; B-10)** | |
| 16 | S 14-4 | 19-3 | Equivalent System, Force and Couple System | 4.7, 4.8 |
| 17 | M 13-4 | 21-3 | Distributed Loading | 4.9 |
| 18 | W 15-4 | 23-3 | Equilibrium of a Rigid Body, Free Body Diagrams | 5.1, 5.2 |
| 19 | S 18-4 | 26-3 | Equilibrium of a Rigid Body (2-D) | 5.3 |
| 20 | M 20-4 | 28-3 | Equilibrium of a Rigid Body (2-D)<br>Two and Three-force Members | 5.3 (cont.)<br>5.4 |
| 21 | W 22-4 | 30-3 | Free Body Diagrams (3-D)<br>Equilibrium of a Rigid Body (3-D) | 5.5<br>5.6 |
| 22 | S 28-4 | 2-4 | Equilibrium of a Rigid Body (3-D); Constraints | 5.7 |
| 23 | M 27-4 | 4-4 | Simple Trusses | 6.1 |
| 24 | W 29-4 | 6-4 | The Method of Joints; Zero Force Members | 6.2,6.3 |

| *Mid-term Break (ONE WEEK)* | | | | |
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| **Lect.** | **Date** | | **Subject** | **Section** |
| 25 | S 12-5 | 16-4 | The Method of Sections | 6.4 |
| 26 | M 12-5 | 18-4 | The Method of Sections | 6.4 (cont.) |
| 27 | W 14-5 | 20-4 | Frames and Machines | 6.6 |
| 28 | S 19-5 | 23-4 | Frames and Machines | 6.6 (cont.) |
| 29 | M 19-5 | 25-4 | Frames and Machines | 6.6 (cont.) |
| 30 | W 21-5 | 27-4 | Internal Forces (2-D) | 7.1 |
| 31 | S 26-5 | 30-4 | Internal Forces (3-D) | 7.1 (cont.) |
| 32 | M 26-5 | 2-5 | Shear and Moment Equations & Diagrams | 7.2 |
| 33 | W 1-6 | 4-5 | Shear and Moment Equations & Diagrams | 7.2 (cont.) |
| 34 | S 4-6 | 7-5 | Shear and Moment Equations & Diagrams | 7.2 (cont.) |
| 35 | M 6-6 | 9-5 | Dry Friction | 8.1 |
| **36** | **T 7-5** | **10-5** | **EXAM # 2 (7:00 – 9:00 P.M.; B-10)** | |
| 37 | S 11-6 | 14-5 | Problems Involving Dry Friction | 8.2 |
| 38 | M 10-6 | 16-5 | Problems Involving Dry Friction | 8.2 (cont.) |
| 39 | W 12-6 | 18-5 | Problems Involving Dry Friction | 8.2 (cont.) |
| 40 | S 18-6 | 21-5 | Center of Gravity & Centroid (No Applications) | 9.1 |
| 41 | M 17-6 | 23-5 | C. G. for Composite Bodies | 9.2 |
| 42 | W 19-6 | 25-5 | C. G. for Composite Bodies | 9.2 (cont.) |
| 43 | S 25-6 | 28-5 | Moment of Inertia for Areas | 10.1,10.3 |
| 44 | M 24-6 | 30-6 | Parallel-Axis Theorem | 10.2 |
| 45 | W 29-6 | 1-6 | Moment of Inertia for Composite Areas | 10.4 |

***Course materials (e.g. class notes, handouts, homework, key solutions, outline/syllabus, etc.) can be found on my homepage/ (CE 201 Statics).**

**Grade Distribution:**

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|---|---|---|
| **Class Work [Homework # and/or Quizzes (12.75), Attendance* (2.25)]** | **=** | **15%** |
| **First Exam: Tuesday 10-4-1432 (15-3-2011) 7:00 – 9:00 P.M.** | **=** | **20%** |
| **Second Exam: Tuesday 7-5-1432 (10-5-2011) 7:00 – 9:00 P.M.** | **=** | **25%** |
| **Final Exam: Saturday 2-7-1432 (4-6-2011) 7:30 A.M.** | **=** | **40%** |
| **Total** | **=** | **100%** |

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

**# Homework is due as indicated on each assignment. You must respect and abide with the deadline. You must follow the HW guidelines given to you in the handout.**

**** For each absence, 0.25 point will be deducted.*** The University regulations regarding excessive **absences** will be strictly adhered to in this course. See pages **66, 67** [*Arabic*] & **38, 39** [*English*] of the **Undergraduate Bulletin** and **article nine** of **The Undergraduate Study and Examinations Regulations**. Remember that if you have an official excuse, you must bring it no later than the second class meeting after resumption of the study. **DN** grade will be given to the student if the absences exceed one-fifth of the scheduled meetings (**9** classes).