



King Fahd University of Petroleum & Minerals

College of Engineering Sciences
 Mechanical Engineering Department
 Spring Semester 2006-2007 (062)

SYLLABUS FOR THE COURSE ME 201 DYNAMICS

ME Department Mission

The department is committed to providing highest quality education in mechanical engineering, conducting world-class basic and applied research, addressing the evolving needs of industry and society, and supporting the development of more competitive and new industry in the Kingdom of Saudi Arabia.

Course Catalogue Description (3-0-3)

Prerequisite CE 201

Kinematics of rectilinear and curvilinear motion of particles. Dynamics of particles and systems of particles. Kinematics of rotation and plane motion of rigid bodies. Work and energy relations. Impulse and momentum principles. Dynamics of rigid bodies in plane motion.

Textbook

Engineering Mechanics: Dynamics, by R. C. Hibbeler, 10th Edition, Prentice Hall 2004

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|-------------------|-------------------|-----------------|------------|------------------|
| Instructor | Dr. H. Al-Qahtani | Office 22-215-3 | Tel.: 2846 | E-mail: QahtaniH |
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| Coordinator | Dr. Y. Al-Nassar | Office | Tel.: | E-mail: |
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|-----------------------|---------|-----------|---------------------|------------------|
| Class Schedule | Sec. 03 | Days: SMW | Time: 09:00 → 09:50 | Location: 24-104 |
|-----------------------|---------|-----------|---------------------|------------------|

Attendance

According to KFUPM rules and regulations, Attendance is **MANDANTORY** and will be checked at the beginning of each lecture. The only acceptable excuse for absence is the one authorized by the Deanship of Student Affairs on their prescribed form. **For any unexcused absence, 0.5 marks will be deducted from the final grade.** More than **8** unexcused absences will be reported to the registrar office and result in a **GRADE of DN** regardless of the student's grade.

Homework (HW)

HW problems are pre assigned as in the course outline Table. Each HW should have the ME Department HW cover page. Late HW will **not** be accepted.

Electronic Learning

The course will have a Web Page on the KFUPM Intranet. On WebCT page, student finds helpful information including lectures in the form of PowerPoint Presentations, solutions for HW problems and major exams.

| Grading System | Factor | Weight | Location | Date | Time |
|----------------|----------------------------|--------|----------|-----------------------|---------------|
| | HW | 10 % | In class | Refer to due dates | In Class |
| | Quizzes | 10 % | In class | To Be Announced (TBA) | In class |
| | 1 st Major Exam | 20 % | OAB | Sat. 24 / 03 / 2007 | 20:00 → 22:00 |
| | 2 nd Major Exam | 25 % | OAB | Tue. 01 / 05 / 2007 | 20:00 → 22:00 |
| | Final Exam | 35 % | (TBA) | TBA | TBA |



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| Course Outline | | |
|--|------------------------------------|---|
| Week Number | Sections Covered from Textbook | Problems Assigned as Homework |
| 1 | 12.1, 2, 4, 5 (omit 12.3) | |
| 2 | 12.6, 7 | HW#1 Due 26/2/2007 (12) 13, 20, 23, 28, 62, 76 |
| 3 | 12.8, 9, 10 13.1, 2, 3 | HW#2: Due 5/3/2007 (12) 91, 94, 104, 114, 127 |
| 4 | 13.4, 5, 6 (omit 13.7) | HW#3: Due 12/3/2007 (12) 139, 143, 173, 193, 203 |
| 5 | 14.1, 2, 3, 4, 5, 6 | HW#4: Due 19/3/2007 (13) 15, 22, 72, 92, 102, 107 |
| Saturday (Week 6), March 24th, 2007 First Major Exam (CH 12 & 13) 8-10 PM @ OAB Auditorium | | |
| 6 | 15.1, 2, 3 | HW#5: Due 26/3/2007 (14) 10, 31, 51, 61, 71, 92 |
| 7 | 15.4, 5, 6, 7 (omit 15.8, 15.9) | HW#6: Due 2/4/2007 (15) 7, 17, 27, 37, 51 |
| 8 | 16.1, 2, 3 (omit 16.4) | HW#7: Due 9/4/2007 (15) 58, 78, 88, 98, 106 |
| Midterm Vacation (12-15 April) | | |
| 9 | 16.5, 6 | |
| 10 | 16.7, 8 | HW#8: Due 23/4/2007 (16) 8, 18, 58, 78, 94, 99 |
| Tuesday (Week 11), May 01st, 2007 Second Major Exam (CH 14, 15, & 16) 8-10 PM @ OAB Auditorium | | |
| 11 | 17.1, 2, 3 | HW#9: Due 30/4/2007 (16) 111, 122, 126, 139, 144 |
| 12 | 17.4, 5 | HW#10: Due 7/5/2007 (17) 16, 26, 32, 44, 49, |
| 13 | 18.1, 2, 3, 4, 5 | HW#11: Due 14/5/2007 (17) 58, 69, 75, 79, 99, 109 |
| 14 | 19.1, 2 | HW#12: Due 21/5/2007 (18) 4, 22, 27, 29, 42, 46, 53 |
| 15 | 19.3, 4 | HW#13: Due 28/5/2007 (19) 5, 13, 23, 33, 43, 53, 55 |

Good Luck.