

The University of Texas at Arlington

MAE 2323 - Dynamics

Course Information - Spring, 2009

Text: **Engineering Mechanics - Dynamics** by R.C. Hibbeler, 11th Ed.

1. **Instructor:** Dr. Ray Wimberly
2. **Office:** Room 211E, Woolf Hall, Phone: 817/272-3240
3. **Office Hours:** TTh 8-9:30A, MW 2-3:30 P,
4. **Website:** <http://www-woolf.uta.edu>
5. **Goals:** To present the principles of engineering mechanics as it pertains to dynamics and to apply these principles to the study of motion of particles and rigid bodies using mathematics and Newton's Laws of motion to solve a variety of problems.

6. **Prerequisites by Topic:** MAE 1312 or CE 2311, and MATH 2325.

7. **Planned Topics:**

- a. General Principles
- b. Kinematics of Particles and Rigid Bodies
- c. Applications of Newton's Laws in Three Coordinate Systems
- d. Kinetics of Particles and Rigid Bodies
- e. Work and Energy Method for Particles and Rigid Bodies
- f. Impulse and Momentum Methods
- g. Conservation of Linear and Angular Momentum

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| 8. | a. | Grading System; | Homework Assignments (@ 80-90) | 10% |
| | | | Scheduled Exams (4) | 60% |
| | | | Final Examination (Comprehensive) | 30% |

- b. Letter Grade/Number Grade correlation:
A (90-100), B (80-89), C (70-79), D (60-69), F (less than 60)

- c. In order to receive a passing grade, the weighted average of the scheduled exams, and the final examination must be 60 or above.

9. **Homework Policy:**

- a. Assigned homework is due at the beginning of the following class meeting.
- b. Use engineering paper for assigned homework problems.
- c. No more than two problems per page (one problem per page for lengthy solutions).
- d. Late homework is accepted only with approval of the instructor.
- e. All homework handed in for grade will include a statement of the problem, a free body diagram of the mechanism (as appropriate), and an organized solution to the problem.
- f. At the end of the semester, the five (5) lowest homework problem grades will not be used in computing the average.

10. Exam Policy:

- a. Four one-hour exams are planned for the course. Unannounced tests may also be given. A comprehensive final examination will be given at the conclusion of the course.
- b. All problems stated in the exams will be weighted equally unless otherwise specified.
- c. There will be **NO** make-up exams.
- d. Missed exams will receive a grade of zero unless the student has an excused absence.
- e. A student having an **UNEXCUSED** absence from the final exam will receive the course grade earned. A student having an **EXCUSED** absence from the final exam has two options:
 - 1) The student may elect to receive the course grade earned with the final exam grade equal to zero, or
 - 2) The student may elect to receive the grade of “I” (incomplete) and make arrangements to complete the course by taking the final examination at the end of the next semester.

If the student chooses the second option, it is the student’s responsibility to consult with the instructor regarding completion of the course requirements.

NOTE: Excuses for absences from the final exam must be in writing with appropriate verification; e.g., note from your doctor, dentist, etc.

11. Attendance policy:

Students taking this course are expected to attend every class, to arrive on time, and to stay in the class until they are dismissed. **Students who fail to adhere to the attendance policy can expect an impact on their grade.** Students will not be penalized in the case of an emergency, or an incident beyond the student’s control.

12. All work turned in for credit must be the results of the student’s own efforts. The penalties for dishonesty could result in a zero for the work turned in, an F in the course, or possibly dismissal from the university.