Spring 2012

ENG 102 Dynamics

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office hours: Wednesdays 1:00–4:00 pm

lectures: TR 8:00–9:50 am, 55 Roessler

teaching assistants

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TA office hours: time & location TBA

Synopsis: This course covers the basic principles of classical dynamics, and its applications to engineering problems. Beginning with the description of spatial motion of point particles and rigid bodies (kinematics), Newton's laws of motion are used to determine the translational and rotational motions of bodies from the forces and moments acting on them. Familiarity with the basic ideas and methods will be gained through extensive problem solving.

1 textbook

The required textbook for ENG 102 is *Engineering Mechanics — Dynamics*, 6th Edition, by J. L. Meriam and L. G. Kraige, Wiley (2010). The homework problems will be assigned from this book.

2 syllabus

The lectures and homeworks will adopt a somewhat different order of the material than the textbook, as follows:

Most likely, we will not have sufficient time to cover the entire contents of each Chapter.

3 prerequisites

The prerequisites for this class are MATH 22B (Differential Equations) and ENG 35 (Statics). A working familiarity with the basic principles of vector analysis is also essential.

4 homeworks

Homeworks will be assigned on Thursdays, and will be due at the beginning of class the following Thursday. No late homeworks will be accepted, but the homework with the lowest score will not count toward the course grade.

5 exams

There will be a mid–term exam and a final exam, to test understanding of the basic concepts and methods presented in the lectures. The exam problems will be very similar in nature to the homework problems, so diligence with regard to completion of the homeworks is the best preparation for the exams. During the exams, you may make use of the textbook and your lecture notes, but no other materials.

Make–up exams will be possible only in the case of legitimate extenuating circumstances (e.g., medical condition or family emergency). Please inform the instructor in advance if you anticipate such circumstances arising.

6 ABET course outcomes

The Accreditation Board for Engineering and Technology (ABET) requires us to identify certain expected "outcomes" for each course — those relevant to ENG 102 are as follows:

(a) work comfortably and competently with mathematics, science, and basic engineering principles;

(e) identify, formulate, and solve engineering problems;

(k) use the techniques, skills, and modern engineering tools necessary for engineering practice.

7 grading policy

Penalties may be imposed on exams, homeworks, and papers for illegible or poorly–organized work. The overall course grade is determined as follows:

homeworks	15%
mid–term	35%
final exam	50%

You are expected to observe the UC Davis Code of Academic Conduct (see `http://sja.ucdavis.edu/cac.html`) concerning all aspects of this course.