Boston University ENG ME 302: Engineering Mechanics II

Syllabus for Fall 2024

Instructor:
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GST:
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Class Times and Locations:
All times are listed in EST (GMT –5). Lectures, discussions, office hours, and all other meetings will be held in-person unless otherwise posted.

Lectures:	Mondays & Wednesdays	SAR 103	12:20pm – 2:05pm
Discussions:	Fridays		
Office Hours:	Tuesday	EMA 202C	3:00pm - 4:00pm

Students are encouraged to attend discussion sections for any questions pertaining to homework and course material. Prof. Frumkin will host office hours for one-on- one meetings by appointment. Please check Blackboard regularly for any updates to these times and locations.

Prerequisites
All students should have taken EK 301: Engineering Mechanics I.

Textbook
Williams JH, *Fundamentals of Applied Dynamics (The MIT Press),* John Wiley and Sons, Inc 1996. ISBN: 9780262039710

Description
Welcome to ME 302! This syllabus contains important information about course resources, expectations, and goals. Please read this document carefully and familiarize yourself with its contents.

Within Engineering Mechanics II, we will cover topics including: kinematics of particles and rigid bodies, Newtonian dynamics, and Lagrangian dynamics. We will study inertial and non-inertial reference frames, coordinate systems and transforms, linear and angular momenta, moments of inertia, Hamilton's principle, Lagrange's equations, and small oscillations.

Course Website

The course website is on **Blackboard** (learn.bu.edu), please check often for updates. Here, we will post the course syllabus, assignments, homework and quiz solutions, and documents for the lab. Course-wide updates will be posted as Blackboard announcement. Please remember to check these communication channels and respond when needed.

Grading

There will be one midterm exam given during the semester, and a comprehensive final exam during Finals Week. The final grade will be calculated in the following way:

If the midterm grade is **higher** than that of the final exam, then the final grade will be:
Final grade = 0.3 * (Midterm grade) + 0.7 * (Final exam grade)

If the midterm grade is **lower** than that of the final exam, then the final grade will be determined fully by the final exam (in other words, the midterm grade cannot hurt your final grade, but can only improve it).

Overall, the final grade can written as:
Final grade = 0.3 * Maximum (Midterm, Final) + 0.7 * (Final)

Make-up exams will be given only in extreme circumstances. Please let Prof. Frumkin know of an unavoidable conflict or medical emergency.

If you qualify for extended time on exams, per evaluation form the Office of Disability Services, it is your responsibility to present your documentation to the instructor at least a week before the first exam. Please inform the instructor at the beginning of the semester if you expect to receive extended time, even if you haven't received your documentation yet. We cannot accommodate last-minute requests for extended time.

Homework

We will have weekly homework assignments that expand upon the material in lecture and are great practice for the in-class quizzes.

These assignments will **not be graded**.

The goal of homework is to practice these concepts and learn how to solve dynamics problems. If you have questions, please seek out help in Office Hours, Discussions, or with your fellow classmates! The Discussions will be mostly centered on helping you understand how to solve these problems.

Importantly, one problem from the homework assignments will appear on the Midterm and at least one will appear on the Final exam. Therefore, it is highly advisable that you learn how to solve all of the HW problems prior to the exams.

Resources and Support

Accommodations for Students with Documented Disabilities

If you are a student with a disability or believe you might have a disability that requires accommodations, requests for accommodations must be made in a timely fashion to the Disability & Access Services, 25 Buick St, Suite 300, Boston, MA 02215; 617-353-3658 (Voice/TTY). Students seeking academic accommodations must submit appropriate medical documentation and comply with the established policies and procedures.

We will make every effort to accommodate such requests, so (a) please notify us at the beginning of the semester if you've received approved accommodations in previous semesters (even if you haven't received documentation for this semester yet) and (b) our policy is that we need at least one week's notification prior to each exam so we can make the necessary arrangements.

Student Wellbeing

Students may experience stressors that can impact both their academic experience and personal wellbeing. These may include academic pressure and challenges associated with relationships, mental health, alcohol or other drives, identities, finances, etc. If you are experiencing concerns, seeking help is a courageous thing to do for yourself and those who care about you. If the source of your stressors is academic, please contact the instructor so we can find solutions together. For personal concerns, Boston University offers many resources, including free and confidential mental health counseling through Student Health Services Behavioral Medicine.

Class and University Policies

Class Policy

We expect that if you are registered for ME302, you should attend class. While most of the material is in a textbook, successful students often report that attending class is one of the best ways to learn. The course faculty treat you as responsible adults with the ability to manage your priorities and therefore do not take attendance as a general rule.

We are also aware of and in agreement with Boston University's Policy on Religious Observance, whereby absences for any religious beliefs are understood and missed assignments on such occasions will be given a chance to be made up. Students are strongly encouraged to notify the instructor in advance, particularly if an accommodation must be made, for such occasions.

Academic Conduct Statement

Cheating on exams or any form of assignment, may be a form of plagiarism and is an infringement of every code of engineering ethics. Plagiarism is a serious academic offense and should not be taken lightly. Understanding your ethical responsibilities is an integral part of becoming an engineer.

Please recall that when you enrolled at Boston University, you agreed to an Academic Honesty Pledge. The Academic Conduct Code details your responsibilities as well as the results of code violations, and is posted at:
https://www.bu.edu/academics/policies/academic-conduct-code/