MENG 383S  Mechanical Engineering III: Dynamics

Instructor: Corey O’Hern, Professor of Mechanical Engineering & Materials Science, Applied Physics, Physics, and Computational Biology & Bioinformatics
Mason Lab, Room 203
Phone: 432-4258
Email: corey.ohern@yale.edu

When: TTh 9:00A-12:15P

Where: Mason Laboratory, Room 107

Office Hours: any time, best to make an appointment first via email

TA: Peter Williams (5th year Ph.D. student in Applied Physics; peter.williams@yale.edu) and Aya Nawano (4th year Ph.D. student in Mechanical Engineering & Materials Science)

Problem-Solving Sessions: twice each week, conducted by teaching fellow, attendance monitored and strongly encouraged

Course Textbooks:


Topics:

1. Units, Newtonian Gravitation (week 1)
2. Motion of a Point (week 1)
3. Force, Mass, and Acceleration (week 2)
4. Energy Budget (week 2)
5. Momentum Budget (week 2)
6. Planar Kinematics of Rigid Bodies (week 3)
7. Planar Dynamics of Rigid Bodies (week 3)
8. Energy and Momentum Methods in Rigid-Body Dynamics (week 3)
9. 3D Kinematics and Dynamics of Rigid Bodies (week 4)
10. Vibrations and Nonliner Dynamics (week 5)

Grading:

1. Weekly homework assignments (20%)
2. Class Participation (20%)
3. In-class mid-term exam (30%); Tuesday, June 12
4. In-class end-term exam (30%); Thursday, June 26

Statement on Academic Integrity: Students are allowed to collaborate on homework assignments, however, each student should write up and turn in their own homework assignments. The exams are not collaborative and will be proctored by the instructor. See additional guidance at http://ctl.yale.edu/writing/wr-instructor-resources/addressing-academic-integrity-and-plagiarism.