HOMEWORK

HOMEWORK IS ASSIGNED WEEKLY. Homework will be collected on Mondays, the week after it is assigned. Except April 16th, when homework will be collected on Tuesday.

All homework assignments are done by each individual without collaboration.

EXAMS

THERE WILL BE TWO (2) EXAMS: MIDTERM and FINAL. Exams will be closed books and closed notes.

All exams are done by each individual without collaboration, unless otherwise indicated.

LABORATORIES

THERE WILL BE FIVE (5) LABORATORY EXPERIMENTS. Each experiment requires laboratory efforts and the write-up of a report.

All laboratory preparations are done individually and jointly within small laboratory groups (2 students per group.)

Data analysis, reduction, and synthesis are done individually and jointly within small laboratory groups.

Each laboratory group completes the laboratory reports jointly. Laboratory reports are due Wednesday, the week after they are finished.
GRADING

The grade for the course will be based on: 20% FOR HOMEWORK, 20% FOR EXAMS, 50% FOR LABORATORY REPORTS, and 10 % FOR LABORATORY AND LECTURE PARTICIPATION AND ATTENDANCE.

NOTE: In all your work, state explicitly every assumption and/or approximation made, explain every procedure, and justify its use. Dimensional analyses are absolutely necessary. All results must be expressed in appropriate units. PLEASE, ALWAYS SHOW ALL WORK, while writing your results only on one side of the sheet(s) of paper; start each problem on a new sheet.

DATE TOPICS


6. Mar 20, Tu Lab. Lab #2: Pressure transducer calibration.


10. Mar 27, Tu **Lab #3: Strain measurements.**
   Lab. (Soda can experiment)

   Lec.

12. Mar 29, Th **Midterm exam.** Includes everything
    Lab. except strain.

13. Apr 02, M Strain measurements.

14. Apr 03, Tu **Lab #3: Strain measurements.**
    Lab. (Soda can experiment)

    Lec.

16. Apr 05, Th **Lab #3: Strain measurements.**
    Lab. Strain gages: final calibration check and data recording (Soda can experiment).
    Finish Lab.

17. Apr 09, M Strain gages. Bridge output and calibration.
    Lec.

18. Apr 10, Tu **Lab #4: Vibration measurements.**
    Lab. (Beam experiment)

    Lec.

20. Apr 12, Th **Lab #4: Vibration measurements.**
    Lab. (Beam experiment)

21. Apr 16, M **Patriot’s Day. No classes.**

22. Apr 17, Tu **Lab #4: Vibration measurements.**
    Lab. (Beam experiment)

23. Apr 18, W Dynamic properties of beams. Motion transducers. MEMS inertial sensors.
    Lec.

24. Apr 19, Th **Project Presentation day. No classes.**
          Lec.

26. Apr 24, Tu  Lab #4: Vibration measurements.
          Lab.  Determination of elastic modulus
                  (Beam experiment)
                  Finish Lab.

          Lec.

28. Apr 26, Th  Lab #5: Calibration of a Thermocouple.
          Lab.  Finish Lab.

29. Apr 30, M  Course review. Modern transducers.
          Lec.  Future directions.
                  State-of-the-art methodologies in experimental methods.

30. May 01, Tu  Final exam. Includes everything.

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