

**MECHANICAL ENGINEERING DEPARTMENT  
UNITED STATES NAVAL ACADEMY**

**EM423 - INTRODUCTION TO MECHANICAL VIBRATIONS**

**PROJECT OBJECTIVES AND POLICY**

- 1. Introduction.** The project associated with EM423 mechanical vibrations is a major and essential aspect of the course. In total it accounts for 40% of your overall final course grade. The project commences at the 6-week point, during the laboratory periods. From the 12-week point, it continues full time to the end of the semester. You are expected to spend at least 2 hours of your own time on the project for every scheduled hour.
- 2. Attendance.** Attendance is mandatory from weeks 6-12. After week 12, the class will meet briefly at the start of each scheduled laboratory class. During this time any course-wide information will be disseminated. Failure to attend this meeting will result in an absence being recorded in MIDS for all the classes for that week. Other than this meeting, you may conduct your project at any time. But be warned - you are only guaranteed faculty and/or technical support during the scheduled periods. Lack of project progress due to poor attendance is a serious misdemeanor, and will result in this privilege being removed for the entire course.
- 3. Project requirements.** The following rules apply to the project. If in any doubt, you are to ask your instructor for further guidance.

The projects are conducted in groups of 2 to 4 midshipmen; individual projects are not permitted, except in exceptional circumstances.

Your project can be on any topic, providing it is related to mechanical vibrations or acoustics. You may choose your own topic, providing you have it approved by your instructor well before the project commences. Projects are normally design & make or experimental in nature, but may be theoretical or computer based.

From week 12-16 you are to submit weekly *progress reports* to your instructor. These will normally be a few sentences, and should include time spent on the project, progress during the previous week, difficulties encountered, and plans for the next week. Submit one weekly progress report per group. The report is to be sent via email not later than 0740 on the laboratory day of each week.

The project is written up as a formal technical report. Reports are individual, but sections such as tabular or graphical results can be copied for the whole group. The title page of your report is to include at least the following information:

- Project title and date
- Your name and alpha number
- Other members of your group (name and alpha)

The final report is **due by 0855, FIVE DAYS before the final examination date.** Late submission will be penalized at 5% per day or part day. You are advised to retain a copy of your report, since the report you submit will not be returned.

Projects are presented to the rest of the section during the time allocated for the final examination. Every member of the group must take part (talk) in the presentation. This presentation is to be treated in all respects as your “final examination” and it is graded.

At the end of your project, your grade will be **F** (Fail) until all manuals, hardware, any equipment you used, etc., are returned.

You have to pass the project in order to pass the course. Failure to submit a report by the final examination date is automatic cause for failure.

4. **Grading.** The following grading applies to the project.

Final project report	60%
Project presentation	20%
Instructor input	20%

## **Rules For Using The Laboratory And Equipment**

**Laboratory and computers.** The Vibrations Laboratory has a cipher lock. You will be given the combination when the project commences, and **you must not give it to anyone else.** ONLY MIDSHIPMEN ENROLLED IN THE CURRENT EM423 COURSE ARE PERMITTED ACCESS TO THE LABORATORY. You may take other midshipmen into the lab to show them your project, but they may not use any equipment (including computers and printers) in the laboratory, and they must be escorted at all times.

Each group will be allocated a workstation that includes a computer and other equipment, such as an analyzer. Any problems with hardware or software must be reported to the technician. Passwords must NOT be put on any computer or data file.

All workstation are connected to the Novell network and the Internet. Your group will be assigned a login ID and password. THE PASSWORD MUST NOT BE CHANGED. The account will let you use the Laser Color Printer in the Laboratory. You must log off the computer each time you leave the lab.

You may use your workstation at any time, 24-hours per day, 7-days per week. This includes processing data for other courses you are taking, providing you comply with the restrictions in this policy statement.

It is recommended that you maintain the files for your project report on the Novell network or on Cadig (CRONUS). This is because many of the graphics files you may produce are very big, and your report may not fit on a floppy disk. Also, I will be able to access these files from my office and help you if necessary.

Software. All the software in the laboratory is owned by, or licensed to, the Academy or owned personally by Professor Ratcliffe. Software, supporting data files, manuals, literature, etc MUST NOT BE REMOVED from the laboratory. No other software is to be installed on any computer in the laboratory without the prior approval of Professor Ratcliffe. Approval will only be given if the software license or agreement permits, and it will not conflict with the functionality of the workstation.

Viruses. Your computer has virus protection software installed. The following rules apply to the use of floppy disks in the laboratory computers.

Do not leave any floppy disks lying about the laboratory. It will be assumed that any "loose" floppy is infected, and it will be thrown away.

If you detect a virus, you must notify the technician immediately. Some viruses use stealth tactics and can hide from the virus protection software after the first time it is identified. Therefore it is very important that you notify the technician as soon as possible, AND DO NOT SWITCH OFF YOUR WORKSTATION, even if this means leaving it running over the weekend.