ENGG 390 - MEM PROJECT GUIDELINES

Objective
The purpose of this course is for you to learn from the experience of completing an engineering design project on your own, all the way from locating a suitable problem to delivering a useful contribution to its solution.

Because each project is different, it is not possible to specify in detail just how to go about yours. You will be judged by results. However, there are some common features of successful projects that may serve as guidelines.

Type of Project
Some projects will involve creating a device or process that will satisfy a specific need, including economic factors. Others may involve a strategy, policy, or an emphasis on management. Whatever the appropriate blend of activities and objectives, you must demonstrate the ability to use an engineering problem-solving approach. That is, the ability to define a problem, derive specifications for a successful solution, generate and evaluate appropriate alternatives, produce a solution in an analytically sound manner, and show that it meets suitable measures of success.

Project Initiation
It is up to you to find a suitable project. Industrial internships, personal interest, family connections, experiences in previous design courses, advice of friends, or other sources, may suggest possibilities. Thayer School's Career Services Office maintains lists of companies that have supported projects in the past or suggested project topics. The last three years of project descriptions are available on the ENGG 390 website.

Projects should be identified and approved by the course instructor during the term before the work is to be performed. Preliminary discussions with the course instructor(s) about the suitability and scope of possible projects are often useful.

You should clearly identify a person as your "client" who will serve as the contact person, and you must find a Thayer or Tuck faculty member to act as your advisor. You should secure this advisor before you leave campus.

Pre-Proposal
During the term before the project is undertaken, the student must give the course instructor(s) a 1-page description of their project as well as meet with the instructor to discuss their project. The 1-page description should define the project and identify the sponsor and faculty advisor.

Proposal
Approximately two weeks into your internship you must submit a proposal to the course instructor. Proposals usually contain an agreement of the client to support the work. The substance of the proposal includes:

- a definition of the problem,
- quantitative specifications describing the functions to be performed,
- a description of the design approach,
- a timeline of activities (including your progress report submittals),
- a statement of expected results and deliverables,
- measures of success,

and any other information that can help assess the viability of the project.

Progress Reports

Usually two progress reports are made during the course of the work. If there are difficulties, uncertainties or great successes, either anticipated or encountered, it may be advisable to schedule additional progress reports.

The first progress report usually contains a reassessment of the problem and the approach being taken in the light of experience. It should establish that the work is on track, the objectives are clear, and that there is reasonable expectation of success. Any difficulties, changes in scope or objectives, limitations, etc. should be identified at this stage.

By the second progress report, sufficient results should have been achieved to enable the end of the project to be anticipated with some confidence. You should be able to describe what needs to be done to finish the work.

Progress reports are nominally 15 pages in length, and are typically submitted electronically (you are responsible for navigating any firewall issues if you use your sponsor's system for communications).

Abstract & Executive Summary

Approximately two week before the beginning of fall term you must submit an electronic copy of your abstract and executive summary for your project.

The abstract should be a brief paragraph description of your project. The executive summary should be one page in length and should provide all the information needed by your review board before attending your presentation.

Final Written Report

The final written report should be a quality document that will impress the client, the advisor, and the course instructor(s). It should clearly describe how the results meet the objectives that were defined at the start of the work. The report should be nominally 15 pages in length.

You are required to submit a total of five bound hard copies of your report. You are responsible to provide your client and your faculty advisor with one copy each. The three other copies must be submitted to the MEM Assistant Director who will distribute them to the course instructor, registrar, and keep one for the MEM Program's archive.

Final Oral Presentation

You must attend one practice session that will be scheduled during the first week of classes.

A final oral report is required. Presentation times will be scheduled by the MEM Program Assistant Director over the summer. Scheduled presentations will begin the first day of fall term (Thayer schedule). Once your presentation is scheduled you are responsible for inviting your client.

The final oral presentation will be 30 minutes in length with 20 minutes of questions and answers from the review board.

Sponsor Reviews

You client must submit a review of your project to the Assistant Director by the time of your oral presentation.

If you client is able to attend your presentation he or she may simply fill out the standard presentation grading sheet.

THAYER SCHOOL OF
ENGINEERING
AT DARTMOUTH
1867

MASTER OF ENGINEERING MANAGEMENT PROGRAM
Engineers Who Mean Business

If he or she is unable to attend the session he or she may submit a completed presentation grading sheet, or provide the Assistant Director with a letter (or email) providing a review of your work.

Grading
The course instructor(s) determine your grade based upon input from the client and the faculty advisor, as well as your performance at the various stages of the project (proposal, progress reports, final written and oral reports). Report writing style should be professional. Grammatical construction, format, exposition issues are all part of your resulting grade.

The basic passing grade is a "P". In order to deserve an "HP" the work must have some remarkable or outstanding aspects that the instructor(s) can clearly identify.

On-line Resources
See the ENGG 390 website **http://engineering.dartmouth.edu/~engg390** for detailed information on the course.