Memorial University of Newfoundland
Faculty of Engineering and Applied Science
ENGI 8800 – EE & CoE Design Project II
Winter 2009

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Office Hours: Friday, 3:30-5:30

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Course Description: Each student is required to work independently on a design project having Electrical / Computer Engineering pertinence, and to present written and oral reports on this work. Projects will normally be open-ended and involve design, implementation and testing of hardware and/or software components. Students will continue the project started in ENGI 7800 during the spring 2008 term.

Evaluation Scheme:

Progress Report	10%
Project Review Meeting	5%
Abstract	5%
Oral Presentation	15%
Demonstration	10%
Log Book	5%
Final Report	50% (Presentation 10/50, Technical Content 40/50)

All components of the course will have a mark assigned by the course coordinator and, when appropriate, will be based on input from other sources such as the project supervisor or course TA.

Important Due Dates (Tentatively):

Progress Report	February 9
Project Review Meeting	February 18, 19, and 20
Abstract	March 24
Oral Presentations	March 24
Demonstrations / IEEE Night	March 31
Log Book	April 7
Final Report	April 7

Expectations:

Each student should budget at least **150** hours for ENGI 8800, which corresponds to about **12 hours per week** over **12.5 weeks** prior to submission of the Final Report.

Students must meet <u>weekly</u> with their project supervisors. <u>It is required that students have their supervisors briefly review and sign the logbook at each meeting.</u> The onus is on the student to initiate these meetings and have the logbook signed. If a student is having difficulty arranging times to meet weekly with their supervisor, they should contact the course coordinator

immediately. It is reasonable to expect that students that do not meet regularly with their supervisors will not be able to meet the technical challenges of their project and this will be reflected in the technical content marks associated with the various course components.

Scheduled Meeting Slot:

The course has a scheduled meeting slot of Friday afternoon at 13:00-13:50. This timeslot will be used, at the discretion of the course coordinator, for the entire class to meet should there be a necessity to convey information to the class. Students will be informed by email when the class is expected to meet during this timeslot. The weekly individual meetings with project supervisors can be scheduled for anytime that it is convenient to both the student and the supervisor.

Components, Equipment, and Software:

The policy associated with expenditures in the 7800/8800 ECE Design Project courses is given below:
(1) If the student is planning to keep the project hardware, then they must pay for all its component and construction costs.
(2) If the supervisor is expecting to use the hardware in their research, the supervisor should pay out of their research grant.
(3) If the student plans on leaving the hardware with the Faculty and the supervisor plans on using the hardware in a future course then the supervisor may forward a request for the expenditure, along with the rationale, to the Discipline Chair. The Discipline Chair will approve the expenditure, if appropriate, using Faculty funds.
Note that inexpensive components may be simply acquired out of the electronics stores. Students should see the electronics technologist (Mr. Tom Pike), for such requests. Also, students sometimes wish to have things manufactured by the University Technical Services. Again, the policy on such expenditures is given in (1) to (3). There is not a lot of time during the term to wait for ordered parts to arrive. Hence, it is strongly recommended that any necessary parts are identified and ordered by the end of January.

Students are not permitted to load unlicensed software onto Faculty computers and any installation of software onto faculty computers must be done by CCAE.

Intellectual Property:

Students are advised that if the issue of the ownership of the intellectual property (e.g. analysis results, design, statistics collected, final report) should arise, the students should consult with the course coordinator before entering any agreement with any group outside of the Faculty of Engineering and Applied Science.

Regardless of the nature of the project, the project student must be prepared to provide sufficient detail in the oral and written presentations to facilitate a fair evaluation of the project. Note that marks can **only** be assigned on the basis of the information (e.g. background, technical details, results) provided by the student in the written and oral presentations.

Course Deliverables:

Progress Report

The progress report will provide an early indication of the student's project progress. The report should be 2-3 pages in length (plus a Gantt chart), using single spacing for lines and 12 point font. It must be comprised of two parts:
(a) a brief description of the project motivation, objectives, and results up to the end of Term 7
    (maximum size of 1 page)
(b) a clear and detailed discussion of progress made towards the project objectives since the end
    of Term 7.   **(minimum of 1 page, maximum of 2 pages)**
In addition to (a) and (b), an updated Gantt chart should show a detailed plan of action regarding the completion of the project. Two <u>hardcopies</u> of the progress report must be submitted to the course coordinator by February 9th.

Project Review Meeting

In the afternoons of February 18, 19, and 20, the course coordinator and TA will be meeting with individual students in 20 minute timeslots. The purpose of this meeting is to discuss the current achievements of the project and to identify remaining tasks to be undertaken prior to successful completion of the project.

Abstract

The abstract for your project is a single page document. In the abstract, you will need to briefly introduce the area related to your project, describe any appropriate theory, and provide the general implementation details. Abstracts will be bound and made available for IEEE night guests and are used as a record of the course. An <u>electronic copy</u> in Word format must be submitted to the course coordinator by email by March 24.

Oral Presentations

On March 24 (tentatively), each student will be responsible for giving a 12-15 minute presentation on his or her project, including entertaining questions from the audience. The presentation should make use of PowerPoint or another suitable electronic tool. Attendance is **mandatory** and dress is **formal** (business wear). Students will be required to provide peer evaluation of the presentation and project content, which will be used to determine the top three presentations. The selected presentations will be presented at IEEE Night.

Demonstrations

During the afternoon prior to IEEE night, students are expected to be available in the appropriate laboratory to demonstrate their project to a team of judges. Each demonstration will be assigned a mark. In addition, from the entire class, a total of 6 to 8 demonstrations will be selected for judging during IEEE Night. Usually the project demonstration will involve visual aids such as posters displays and, where appropriate, an actual demonstration of a working system. You may find selected slides from your presentation useful for the preparation of a poster or display board describing your project.

IEEE Night

The IEEE Night is a professional, rather than an academic part of the project. It has become a tradition in Electrical and Computer Engineering at Memorial and has received considerable support from the IEEE (Newfoundland Section). The evening begins with three oral presentations by students, which are selected based on the academic oral presentations. These students compete for the IEEE (Newfoundland Section) Award, which is announced at the end of the evening.

Following the oral presentations, all students go to their respective posters and/or demonstrations of their projects in various labs. This provides an opportunity to showcase the student projects for the visitors to the Faculty. A panel of judges will review the student projects selected during the afternoon and will award further prizes for excellence in the project demonstrations.

The evening concludes with refreshments and the presentation of the awards from the IEEE. The evening is usually well attended by IEEE members from the local community and judging is done by IEEE members, generally from outside the university. Attendance at IEEE Night is required and the dress for all members of the class is formal (i.e. business wear).

Final Report

Students must submit a final technical report consisting of 25-35 pages. Although the report can contain some material already presented in previous reports (e.g. introductory background for the project), it should contain a substantial amount of new, original material. It must contain a complete description of the design and testing outcomes of the system under consideration. Appropriate references and citations should be included, as well as any relevant test results, diagrams, graphs, mathematical derivations, etc. The report must be double-spaced and use 12-point font. You may place figures and tables in the text as appropriate for your discussion. Two hardcopies of the final report must be submitted to the course coordinator by April 7th.

The report will be assigned a mark based on two considerations. One consideration will be the quality of the presentation of the material contained in the report. This will include an assessment of the writing, formatting, use of citations, and other important considerations in the presentation of a technical document. Another consideration will be the level of technical achievement in the course as indicated in the technical content of the report. This will include an assessment of the technical challenge of the project and the overall technical achievement of the work.

Log Book

A log book must be maintained by each student and signed at each weekly meeting by the student's supervisor. The log book, which serves as a technical diary, must contain an account of the work performed and an accurate account of time spent on the project. The time should be recorded in a table, which includes the date, the task name, the time spent and the cumulative time spent. In many industrial projects, the client is billed (e.g. monthly) based on the time spent by the contractor's staff.

The log book must contain a record of the progress of this project and students must record concepts, calculations, analysis, design procedures, and discussions in the log book. The log book must be a bound notebook and the notes should be hand written, not typed. It must be updated as the work is carried out over the course of the project. Data sheets, print outs, photographs, etc., can be pasted into the log book. Entries into the log book must be made using a non-erasable ink.

The log books may be collected at **any time** during the term and evaluated by the course coordinator or TA. The coordinator will give **24 hour** email notification prior to the collection of the log books. Log books must also be submitted at the coordinator's office for final review by April 7th.

Deadlines and Penalties:

The deadlines outlined for log book collection, progress and final reports, and the abstract must be submitted to the coordinator by **5:00 p.m.** on the date due. Late submissions will be penalized 10% per day overdue, except for log books and abstract which will not be accepted late. These deliverables must be submitted to the coordinators' office (EN-3031) unless otherwise instructed.

Plagiarism:

The University Calendar's comment on plagiarism:
    "Plagiarism is the act of presenting the ideas or works of another as one's own....Use of.such
    material without acknowledgement is contrary to accepted norms of academic behaviour." [1]
Plagiarism is considered a serious academic offence. If any part of the course deliverables (i.e., submitted written work and oral presentation) is found to be plagiarized, the work will receive a mark of zero.

[1] Memorial University of Newfoundland Calendar, 2008-2009, p. 62.

Course Web Page:

The course has a web page located at
        http://www.engr.mun.ca/~lihong/teaching/EN8800/engi8800.htm.
Please check this web page frequently for any updates or notifications.