

MTHE 494 – Mathematics and Engineering Seminar

Fall Term 2013

Coordinator: Tamas Linder – Jeffery Hall 401
Phone: 533-2417; E-mail: linder@mast.queensu.ca

Time/Place: Tuesday 12:30
Thursday 11:30
Friday 1:30
Jeffery Hall, Room 102

Grading:	1. Short essay:	10%
	2. Short essay editing:	5%
	3. Long essay outline:	10%
	4. Long essay draft:	15%
	5. Long essay final copy:	40%
	6. Oral Presentation (Weeks 8–12):	10%
	7. Attendance:	10%

Course Description

- **Speakers:** The first objective of this seminar is to give you some exposure to and insight into various aspects of the profession and practice of engineering. Towards this end, there will be speakers addressing topics such as (i) professional engineers' organizations, (ii) the roles and responsibilities of the professional engineer, (iii) health and safety in the engineering workplace, (iv) sustainability and the environment, and (v) equity in the workplace.

The lectures on the above topics will be supplemented by lectures by speakers addressing career matters. Some of these speakers will be internal from Queen's, and others will be alumni who will speak about their experience after graduation.

You must all attend the seminars; attendance counts for 10% of the mark.

- **Technical writing:** The balance of the assessment for the course is connected to writing assignments. You will receive four lectures on technical writing from a staff member from the Writing Centre.

The assessment comes in four parts.

1. *A short preliminary essay:* This essay is due early in the term, and should be a critique on a technical subject of your choice. (For example, you may look for an instance of where an engineer has made an error, or where you think an engineer has made an error, and write about where things were done improperly, and how this could have been done better.) You will be assessed on your ability to critique technical ideas in a forceful and compelling way. This is due on October 1.
2. *A long essay:* This essay will be again on an engineering topic of your choosing. The main point here is to integrate material from speakers, along with some independent research, to demonstrate your appreciation of the issues of professional practice. It is essential that your essay deal explicitly and coherently with topics like (i) the role of professional societies and organizations in the profession, (ii) societal, environmental, and economic impacts related to the topic you have chosen, and (iii) safety considerations. It is, therefore, important that you select a topic for which these issues are relevant.

The assessment of the long essay comes in three parts.

- (a) *Outline:* This will be an outline of your essay, highlighting the major points, perhaps in bullet form. This is due on October 18.
- (b) *Draft:* This is an unpolished expansion of your essay. Here you do not need to be fussy about referencing, formatting, etc. But the main ideas should all appear in something close to their final form. This is due on November 1.
- (c) *Final version:* In this version of the essay, you will polish your draft, making sure that formatting and referencing meets standards outlined in the writing lectures. It is also expected that you will use the feedback you receive on your draft to make the writing as polished as possible. This is due on November 29.

All essays are to be submitted by noon of their due date. Please submit one hardcopy to the front desk, Room 310, of Jeffery Hall and one soft copy to Johana (johana@mast.queensu.ca). There will be an automatic 10% deduction for late submissions.

We intend to form a booklet containing a compilation of the best reports for future reference. If any of you have any concerns about such future use of your reports, please let me know. Unless I hear from you to the contrary, I shall assume that you have no objection to such use of your reports.

- **Student Oral Presentations:** Each student will be required to give a 20 minute talk (including set-up and questions) on an engineering topic (e.g., you may talk on your MTHE-493 project or any engineering topic of interest to you). The student's slides should also be submitted to the course coordinator by e-mail (in PDF format, preferably).