The University of Alberta
Course Outline for
ENGM 401 & ENGM 620 Section X1:
Fundamentals of Engineering Finance
Fall Term 2010 (September 2010 - December 2010)
Lectures on Mondays, Wednesdays, Thursdays: 5:00 PM to 5:50 PM
ENGM 620 Seminars on Wednesdays 6:00 PM to 7:50 PM
In Room ETLE 1-003
This document dated August 30, 2010

Instructor: MG Lipsett, Department of Mechanical Engineering, Engineering Management Group
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Office: 5-8J Mechanical Engineering Building (5th Floor West)
Office Hours: Wednesdays 1:00 – 3:00 pm (or by appointment, or whenever my door is open).
Teaching Assistants: Enrique Fernandez (for students with surnames A-G); Roya Vaghar Anzabi (for students with surnames H-R); and Roberto Gallardo (for students with surnames S-Z).

Course Text (required):

Course Website:
http://www.ualberta.ca/~mlipsett/ENGM401_620/ENGM401_620.htm

Course Content:
The application of the fundamentals of engineering economics, financial analysis, and market assessment to engineering alternatives in the planning, development, and ongoing management of industrial enterprises. The course covers the use of engineering, economic, financial, and market assessment information in investment and business operation decisions in technology oriented companies.

Course Format:
This course will be lecture based, primarily using slides in pdf format that will be made available in advance from the course website (and possibly eClass as well but not guaranteed). These lecture slides are supplemented with notes for selected discussions, and with in-class spreadsheet and problem-solving examples. Required reading and other student resources are contained in the textbook and the course website. Formal announcements made to the class may be subsequently posted on the course website (and possibly eClass).

Assignments will be posted on the course website (and possibly eClass).

All overheads and notes for the course are subject to copyright, including any solution guides. Reproduction for distribution other than for your personal use is prohibited unless explicit specific permission is granted.

Recording of Lectures:
The instructor may record audio of the lectures. Note that recording audio or video by students is permitted only if there is prior written consent of the instructor, or if recording is part of an approved accommodation plan.
**ENGM 401 Marking Scheme:**

- Assignments*: 18%
- Individual Projects: 12%
- Midterm Exam #1: 20%
- Midterm Exam #2: 25%
- Midterm Exam #3: 25%

**ENGM 620 Marking Scheme:**

- Assignments*: 18%
- Individual Projects: 12%
- Team Project (seminar): 15%
- Midterm Exam #1: 15%
- Midterm Exam #2: 20%
- Midterm Exam #3: 20%

*Assignments are due in class and cannot be accepted after solutions have been posted.

**Additional Reading (strictly optional, NOT required):**


**Note:**
The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at [www.ualberta.ca/secretariat/appeals.htm](http://www.ualberta.ca/secretariat/appeals.htm)) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University. Policy about course outlines can be found in Section 23.4(2) of the University Calendar.

**Midterms:**

There are three midterms in this course, and no final exam. The dates are:

- Midterm #1: Monday October 4, 2010 at 5:00 p.m.
- Midterm #2: Monday November 8, 2010 at 5:00 p.m.
- Midterm #3: Monday December 6, 2010 at 5:00 p.m.

Each midterm is in multiple choice format, with typically 20 5-choice questions and 25 true-false questions. Each midterm will be held in class (fifty minutes in duration) and will be open book & open notes (hard copy only, no computers).

Each student will receive an exam question booklet and a machine-readable scantron sheet to record the answers. Using a pencil, the student can record their name, student ID, and exam version on the scantron sheet before the exam begins. Answers are also recorded in pencil on the scantron sheet, which must be submitted with the student's copy of the examination. The student must also write their name on their copy of the examination paper. (A time-saving tactic is to note the answer on the exam paper and then transfer the answers to the scantron sheet.) Note that the examination paper itself is NOT marked; only the scantron sheet is marked for credit.

Midterm problems in this course cover, in general:

- defining terms and activities in engineering management,
- identifying quantitative financial information in the context of business situations,
- filling out or interpreting financial information on statements,
• calculating and interpreting metrics (such as financial ratios) that pertain to engineering finance and engineering management scenarios, and
• analyzing engineering financial situations such as the time-value of money and interest calculations.

The 5-choice questions will be weighted higher than the true-false questions. Some questions (not many) will require simple calculations. Calculators are allowed, but no devices capable of wireless communication.

Re-exam rule: If a re-exam is granted, the exam will be comprehensive (i.e., use material from the entire course as covered in that lecture section) and the exam mark will replace the combined mark of all midterm exams given in the course. The rest of the term work (projects, assignments, etc) will contribute to the new grade as before in the same fraction.

If a student misses a midterm for a documented and accepted reason (medical or personal emergency), then other midterm marks will be scaled proportionally to yield the total contribution to the final mark.

Individual Projects
There will be two projects. Projects are to be done by the individual student without help.

Project #1 will be due in class at the start of the lecture on October 20, 2010.
Project #2 will be due in class at the start of the lecture on November 22, 2010.

Projects can also be handed in before the deadline at the Mechanical Engineering Department Office (MEC E 4th Floor). Solution guides for projects are not distributed.

ENGM 620 Investment Analysis Team Project
The key difference in ENGM 620 with respect to ENGM 401 is a greater emphasis on investment analysis for publicly traded companies, with an emphasis on technology. Students in ENGM 620 form small groups to research the financial valuation of a publicly traded company and its performance in the market. Later in the course, each group presents their assessment in a formal presentation to the class during the Wednesday evening time slot. All members of a project team will be individually evaluated on their contribution to the analysis and presentation. All students are expected to attend the presentations and to fill out feedback forms, which will also be evaluated.

Lecture Schedule
Lecture dates and topics are posted on the course website. The schedule may be subject to change.

Feedback:
Good managers are committed to effective interactions with the people they work with. It is critical that there be good lines of communication, not only for stating expectations but also for accepting feedback on performance. (Of course, this communication has to go both ways to be effective: the employee has to trust the manager to accept feedback non-judgmentally.) In this course, the instructor welcomes constructive feedback (which can be positive or negative) and any suggestions for improvements to the course. Discussion during the class can significantly improve the learning experience for everyone. If you have a question for clarification or a relevant comment (or if the instructor has made an error…), please share it with the class.

Feedback can also be submitted in lieu of a missed assignment or to improve the mark of a single assignment to full marks. The feedback form is available through a link on the course web site. Critical feedback is welcomed. Feedback can be submitted in a sealed envelope which will only be opened after the course marks have been submitted. Constructive feedback has been very helpful in improving the course.