

MECH 431

Engineering Economics

Contact Information

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Class Format

Three 50min classes each week. Tutorials on a biweekly basis or as required. Guest speakers from the BC Business and Industrial communities. All the course materials are available online at

www.vista.ubc.ca.

Learning Objectives

By the end of the course, we expect that students will be able to:

- Use the basic financial tools required for sound decision making in engineering (time value of money, taxes, inflation, risk uncertainty, etc).
- Perform discounted cash flow calculations to choose between engineering projects using the relevant mathematical models.
- Prepare and analyze the basic financial reports (balance sheets, income statements, etc) and evaluate corporate performance and competitiveness based on the relevant information.
- Assess and quantify the uncertainty and risk associated with engineering projects and evaluate investment alternatives.
- Develop a business plan

Prerequisites

None

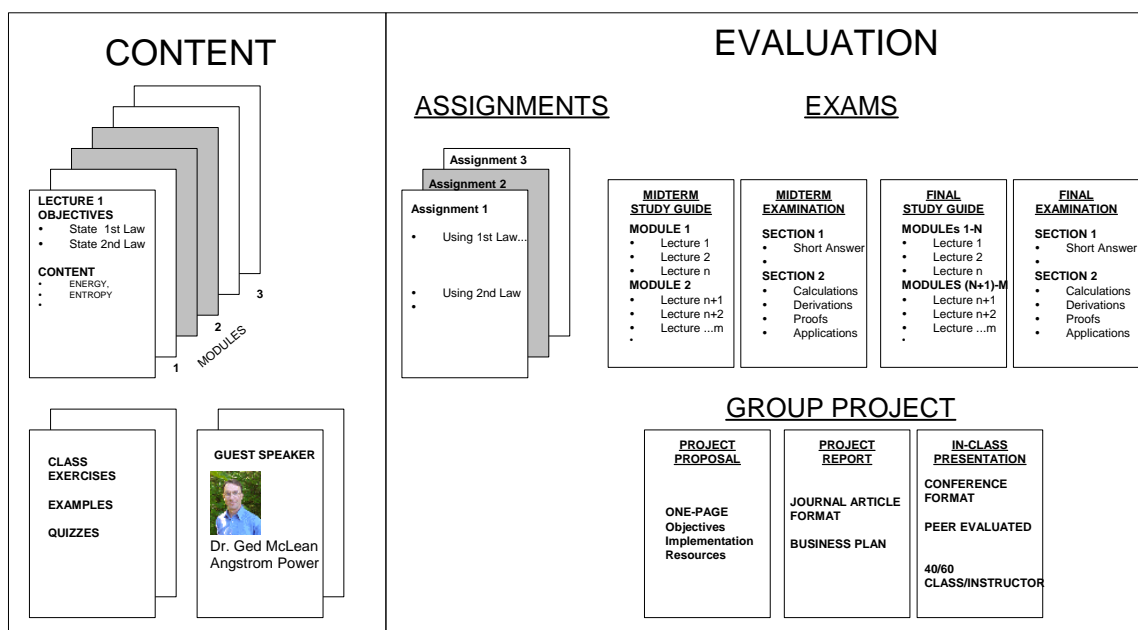
Textbook

Engineering Economic Analysis - Canadian Edition (August 2005)
John Whitaker, Department of Mechanical Engineering, University of Alberta, Donald Newnan, Professor Emeritus, San Jose State University, Ted Eschenbach, Professor Emeritus, University of Alaska and Jerome Lavelle, North Carolina State University
Price: CDN\$ 91.39
ISBN: 0-19-541925-1

Course Structure and Evaluation

The course implementation is illustrated below. It includes lectures, in class examples, homework assignments, midterm and final exams, and a group project (writing a Business Plan). The core course content is complemented with guest lectures by executives from Vancouver-based companies (past visitors include executives from Greenlight Power Technologies, Cellex Power Products, Angstrom Power Inc., Ballard Power Systems, etc).

The interaction with industrial leaders has provided an effective exposure mechanism for students joining the labour force upon graduation. **These guest lectures form an integral part of the course, and their content may be included in the midterm or final examinations.**



Assignments must be completed and submitted to write the final exam. The solutions to the assignments will be provided online, but the assignments will not be marked. Late assignments will not be accepted except in the case of illness or other acceptable circumstances.

When applicable, the background materials should be read before each class.

Evaluation Scheme

	%
Problem sets*	5
Midterm examination	30
Project (Business Plan)	15
Final examination	50
Total	100

* Solutions to assignments are provided and all assignments must be completed to write the final exam.