

## ENGR 301/2 Final Exam Notes

The final exam is a multiple-choice exam with only one correct answer per question. You will be asked to work the problems in the booklet that will be provided. You will then indicate your answer on a **multiple-choice answer sheet** by filling or shading the appropriate answer circle. Do not leave any answers blank.

The final exam covers both Management and Economics. You will be provided with a formula sheet of compound interest formulae and a formula related to inflation, market and real interest rates. In addition, you will be provided with the appropriate compound interest tables.

You may only use a Faculty approved calculator (one with the appropriate ENCS sticker) during exams.

### The following material on Management and Economics is included:

- Project Stakeholders and Organizational Structure
- Contract types
- Planning and scheduling (Critical Path Method)
- Cash flow diagrams, interest and equivalence
- Nominal and effective interest rates
- Present worth analysis
- Annual cash flow analysis
- Internal rate of return
- Other analysis techniques (B-C ratio, future value)
  - *Skip sensitivity analysis*
- Depreciation

### Skip the following lectures:

- Cost Control (Earned Value)
- Taxation

### Skip the following sections of the course text: Engineering Economic Analysis, 2<sup>nd</sup> Canadian Edition, Newnan *et al.*, Oxford University Press, 2010:

#### Chapter 4:

- Skip Page 108 (starting at Economic.....moment diagram) until page 110 (relationships between compound interest factors)
- Skip from page 112 (derivation of arithmetic gradient factors) until bottom of page 113
- Skip from page 119 (geometric gradient) until page 121 (nominal and effective interest rate)
- Skip from page 128 (continuous compounding) until page 136 (summary)
- Skip page 138 completely

#### Chapter 5:

- Page 169 (multiple alternatives) until page 175 (summary)

Chapter 6:

- Skip from 202 (using spreadsheets to analyze loans) until 206 (summary)

Chapter 7:

- Skip from 226 (interest rates when there are fees and discounts) until 240 (summary)

Chapter 9:

- Skip from 307 (sensitivity and breakeven analysis) until 316 (summary)

Chapter 11:

- Skip from 383 (calculating the CCA and the UCC with using schedule 8)

Chapter 12:

- **Skip all of it**

Chapter 14:

- Skip from 484 to 494

**Good Luck!**