

**ENGINEERING ECONOMICS: ECO1192 D**  
**FAISAL ARIF**  
**WINTER 2016**

**Course schedule: Thursdays @ 19:00-22:00**

**Course location: MNT 203 (Monpetit Hall 203)**

**Office: FSS 9050**

**Office hours for Professor: Thursdays @ 17:30-18:30**

**E-mail: [farif098@uottawa.ca](mailto:farif098@uottawa.ca)**

**Teaching Assistants: Jean-Philippe Wan Fook Chuen AND Mingying Zhu**

**Office hours for Teaching Assistant(s): **To be announced later on the course website****

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### **OFFICIAL COURSE DESCRIPTION**

The scope of engineering economics; mesoeconomics supply, demand, production; break-even analysis; economizing and comparing mathematics of money: time value mechanics; equivalent annual - worth comparison method; present worth comparisons; management of money: date and sensitivity analysis, industrial practices; analysis of public projects, economic analysis recognizing risk.

### **GENERAL COURSE OBJECTIVES**

The course intends to empower engineering students with essential economic tools that will enable them to critically evaluate engineering decisions from the economic project management perspective.

### **SPECIFIC OBJECTIVES**

- To identify engineering economics as a distinct discipline at the interface between engineering and economics.
- To recognize, formulate, analyze and apply correct concepts and techniques of economic analysis used to inform engineering decisions.
- To explain the results of your models to managers and other non-specialist decision-makers.

### **EVALUATION**

There will be three exams. The first two (2) mid-terms (MT) will be held during class-time on **Thursday, February 11<sup>th</sup>**, and **Thursday, March 17<sup>th</sup>**. The best of the two MTs will be weighted towards 35% of the final grade. The assignment(s) will be weighted 20% of the final grade. The final exam, which is scheduled by the Registrar Office, will worth 45% of the final grade.

Hence, Final Grade = Assignment (20%) + Max {MT1 , MT2} (35%) + Final Exam (45%)

### ***Please note (very important):***

- The assignment and all examinations are mandatory. Subject to the appropriate University of Ottawa rules and regulations, absence from a mid-term examination or failure to submit the assignment will result in a zero (0) score.
- There are no make-up mid-term examinations.
- Absence from the final examination will result in an “Incomplete” final grade.

- In case of a missed examination with an acceptable excuse that fall within the appropriate University of Ottawa rules and regulations (the Faculty reserves the right to accept or reject the reason offered; note that reasons such as travel, employment, and misreading the examination schedule are not usually accepted), a third-party evidence may be required. For example, medical certificates will have to be validated by the University of Ottawa Health Services on 100 Marie-Curie.
- Late submission of assignment: Please take a careful note of the assignment submission date (**March 31<sup>st</sup>**). Generally a sufficient amount of time is provided to complete and hand-in the assignment. Therefore, late assignments will be graded on a sliding scale, where 25% of the original assignment grade will be deducted for each day of late submission (i.e., 50% of the allotted grade will be deducted if the assignment is late by 2 days and so forth). Hence, students are highly encouraged to adhere to the assignment submission deadline. You should plan ahead and, if need be, submit your assignment earlier than the deadline, should you anticipate that you might miss the deadline for any reason. No exception will be made for late submission of assignment.

### **LECTURES, EXAMINATIONS AND ASSIGNMENTS**

PowerPoint lecture notes reflecting general course material will be available from the University of Ottawa [course website](#). Although classroom lecture notes will contain more practical problems and applications than [course website](#) lecture notes, their subject-matter coverage will be similar. The instructor will have weekly office hours to address specific student needs.

A basic knowledge of Excel® is required to complete assignment(s) and to grasp key principles of finance.

Students will find grades, answers to examinations and solutions to assignments on the [course website](#).

### **RECOMMENDED BOOK**

N.M. Fraser and E.M. Jewkes, *Engineering Economics*, 5<sup>th</sup> edition, Pearson, Toronto, Ontario, 2013 (available at the University bookstores).

Access at all times to the textbook is highly recommended. All subject-matter references will be to the recommended course textbook.

### **SUPPLEMENTARY RESOURCES**

D.G. Newnan, J. Whittaker, T.G. Eschenbach and J.P. Lavelle, *Engineering Economic Analysis*, 3<sup>rd</sup> edition, Don Mills, Toronto, Ontario, 2014.

J.A. White, K.E. Case and D.B. Pratt, *Principles of Engineering Economic Analysis*, 5<sup>th</sup> edition, Hoboken, NJ, USA, 2010.

### **CALENDAR OF MAJOR COURSE ACTIVITIES**

A detailed tentative calendar of “key activities” is attached to this course outline. Please note that updates to the course calendar may be carried out throughout the Winter session. Students are expected and responsible for checking the [course website](#) on a regular basis for any course-related updates throughout the semester.

### **IMPORTANT REMINDERS**

Please have a careful read of page 4 of this course outline.

## ECO1192B – Engineering Economics – Tentative Course Calendar for Winter 2016

**Instructor: F. Arif**

**Email: [farif098@uottawa.ca](mailto:farif098@uottawa.ca)**

**Lectures: Thursdays 19:00 to 22:00 at [MNT 203 \(Montpetit Hall 203\)](#)**

**Required Text:** N.M. Fraser and E.M. Jewkes, *Engineering Economics*, 5<sup>th</sup> edition, Pearson, Toronto, Ontario (available at the University bookstores)

Week	Dates covered in the week	Class Date	Topics	Required Readings	Important Notes
1	Jan 11 – 17	Jan 14	Engineering Decision Making Time Value of Money	Chapter 1 & 2	Welcome Announcement – Course Outline & Blackboard
1	Jan 11 – 17	<b>Jan 17 9 AM – 12 PM</b>	Cash Flow Analysis Comparison Methods Part 1	Chapter 3 & 4	Make-up class for the missed class on Jan 28
2	Jan 18 – 24	Jan 21	Comparison Methods Part 1 Comparison Methods Part 2	Chapter 4 & 5	
3	Jan 25 – 31	Jan 28	NO CLASS		
4	Feb 1 – 7	Feb 4	Comparison Methods Part 2	Chapter 5	
5	Feb 8 – 14	<b>Feb 11</b>	<b>Midterm #1</b>		Covers Chapter 1 – 5
6	Feb 15 – 21	NO CLASS		Reading Week	
7	Feb 22 – 28	Feb 23	Depreciation and Financial Accounting	Chapter 6	
8	Feb 29 – Mar 6	Mar 3	Taxes	Chapter 8	
9	Mar 7 – 13	Mar 10	Inflation	Chapter 9	Begin Assignment (covers Chapter 1 – 12)
10	Mar 14 – 20	<b>Mar 17</b>	<b>Midterm #2</b>		Covers Chapter 1 – 9
11	Mar 21 – 27	Mar 24	Public Sector Decision Making	Chapter 10	
12	Mar 28 – Apr 3	Mar 31	Dealing with Uncertainty and Risk	Chapter 12	Complete and hand-in Assignment at the beginning of the class – Mar 31
13	Apr 4 – 10	Apr 7	Project Management	Chapter 11	
-	Apr 14 – 27	<p>The final exam schedule is determined through the <a href="#">Strategic Enrollment Management</a> and will be posted around mid-March. You will have access to your personal course schedule and relevant information in <a href="#">uoZone</a>.</p> <p>Please note that the Final Exam will be scheduled between Apr 14 – 27 and will cover the entire content of the course.</p>			

## IMPORTANT REMINDERS

### **Absence from an examination or late submission of an assignment**

Absence from any examination or test, or late submission of assignments due to illness, must be justified; otherwise, a penalty will be imposed. The Faculty reserves the right to accept or reject the reason offered. Reasons such as travel, employment, and misreading the examination schedule are not usually accepted.

### ***Beware of Academic Fraud!***

Academic fraud is an act committed by a student to distort the marking of assignments, tests, examinations, and other forms of academic evaluation. Academic fraud is neither accepted nor tolerated by the University. Anyone found guilty of academic fraud is liable to severe academic sanctions.

Here are a few examples of academic fraud:

- engaging in any form of plagiarism or cheating;
- presenting falsified research data;
- handing in an assignment that was not authored, in whole or in part, by the student;
- submitting the same assignment in more than one course, without the written consent of the professors concerned.

In recent years, the development of the Internet has made it much easier to identify academic plagiarism. The tools available to your professors allow them to trace the exact origin of a text on the Web, using just a few words.

In cases where students are unsure whether they are at fault, it is their responsibility to consult the University's Web site at the following address: [http://www.socialsciences.uottawa.ca/eng/writing\\_tools.asp](http://www.socialsciences.uottawa.ca/eng/writing_tools.asp) « *Tools for Writing Papers and Assignments* ».

Persons who have committed or attempted to commit (or have been accomplices to) academic fraud will be penalized. Here are some examples of the academic sanctions, which can be imposed:

- a grade of « F » for the assignment or course in question;
- an additional program requirement of between 3 and 30 credits;
- suspension or expulsion from the Faculty.

Last session, most of the students found guilty of fraud were given an « F » for the course and had between three and twelve credits added to their program requirement.

For more information, refer to:

[http://www.uottawa.ca/academic/info/newsletter/fraud\\_e.html](http://www.uottawa.ca/academic/info/newsletter/fraud_e.html)