



UNIVERSITY OF  
ALBERTA

**AY2020/2021 Winter Term Section B1 (92040)**  
**ENG M 401 Financial Management for Engineers**

**Class sessions:**

Venue: Zoom Meeting

<https://ualberta-ca.zoom.us/j/94539542735?pwd=UE1EdmlZVGxpcFkxUUZPS113MjZZQT09>

Meeting ID: 945 3954 2735, Passcode: EM401

Mondays, Wednesdays, and Fridays

From January 11 to April 16, 2021

Time: 11:00 - 11:50 AM

**Course Web Site:** Refer to eClass at <https://eclass.srv.ualberta.ca/portal/>. You can logon from U of A homepage: <http://www.ualberta.ca> with your CCID and password.

**Instructor:** Ma, Yongsheng Ph.D., P.Eng.  
Cell Phone: 780.292.6809  
E-mail: [yongsheng.ma@ualberta.ca](mailto:yongsheng.ma@ualberta.ca)

**Instructor office hours:**  
Wednesdays 1:00 PM to 2:00 PM (or by appointment), Zoom link: <https://ualberta-ca.zoom.us/j/97720766976?pwd=dC8rOGINZTV2SWRkSS9XTWtWSkd0dz09>,  
passcode: EM401

**TA and Marker:**

TA: Mr. Tianyu Zhou, E-mail: [tzhou4@ualberta.ca](mailto:tzhou4@ualberta.ca)  
Office hour: Wednesday 4:00–4:40 PM and Friday 3:00–3:40 PM  
Zoom: <https://ualberta-ca.zoom.us/j/6535634232?pwd=REM3WGVDRVc1bU4rOURWSFg2TIUwZz09>  
Password: EM401

Marker: To be confirmed.

**YOUR ARE REQUIRED TO READ THIS DOCUMENT CAREFULLY**

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## **Course Description in the University Calendar**

★ 3 (fi 8) (either term, 3-0-0) 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. Note: Credit cannot be obtained for more than one of ENGG 310, ENGG 401, ENG M 310, or ENG M 401.

## **Course Objective**

To introduce the fundamental concepts of engineering economic analysis, including the generation and use of financial information in engineering practice.

This course is offered in the belief that engineers will have a much more enjoyable career and make a better contribution in their employment if they have some fundamental knowledge of business. It is not expected that all engineers will become managers or business operators, but for the purposes of this course, there are times when you will be required to “think like a manager”. At the end of the course, you may wish to reflect on whether this exercise is of any enjoyment to you, and use this as a partial guide in your own career path planning.

## **Text, Course Structure and General Comments**

- Material for the class:
  1. Required text book: “*Contemporary Engineering Economics: A Canadian Perspective*, Third Canadian Edition Plus Companion Website with Pearson eText -- Access Card Package (3rd Edition)”, ISBN 978-0-321-53876-5 –2011, which is published by Pearson, and authored by Chan S. Park, Ming J. Zuo , and Ronald Pelot. It is available from the university bookstore. The third edition is substantially different from the earlier editions, and **is required** for this course because this textbook contains the required readings and the assignment problems. The companion website provides eText, Excel files, interest factors, study guide questions, sample end-of-chapter problem solutions, tutorials, etc. Online access of the textbook and the companion website must be purchased from the publisher.
  2. CHECK eClass FREQUENTLY. Lecture slides and other handouts, including sample midterm exam questions, assignment and project solutions, as well as various online learning tools will be posted on the course *eClass* page.
  3. Students are responsible for learning all the materials covered in the course, including the textbook, lecture slides, assignment and project solutions, in-class handouts, and online learning tools. Everything taught in the course may be tested.
  4. Students are strongly encouraged to attend each lecture as most midterm exam questions will be directly or indirectly discussed in class. Assignment and project solutions will be distributed in class on the due days of submissions. Many assignments will be discussed briefly in classes immediately after the due time, so you may find it helpful to keep a copy of your work and important to take notes in those classes. In addition, because course-related information could be distributed by email messages via the eClass Forum, please check out those messages timely.

5. Given the class size and the current online teaching challenge, the instructor will defer student question to the TA via either his office hours or email. If the TA could not address your questions satisfactorily, students are also welcome to join the Zoom sessions allocated as the office hours or by email after class.
6. Students may discuss assignment and project questions with the TA, the instructor but should complete them independently from other students. For learning facilitation, some answers to typical questions will also be published on the eClass course page in a FAQ section, or sent to all class participants via eClass forum email messages under the instructor or TA's discretion. Privacy is protected by deleting the name and email address of the student concerned. Please send your questions from the University of Alberta account with "EM 401" in message subject.
7. Constructive feedback regarding the course, such as the teaching and learning processes and related outcomes is appreciated. Student feedback will be actively sought throughout the course, including such means as "rapid feedback sampling", "before-and-after-lecture questions", and a "use of class resources survey".
8. The PowerPoint slides, notes and other class materials (including electronic copies) are subject to copyright. Reproduction for distribution other than for your personal use is prohibited unless explicit permission is granted.
9. Financial analysis (including investment analysis) is highly useful to engineers. It cannot be understood without completing assignments and projects. This is not a subject that can be mastered by only reading a book, and assignments and projects are a key part of the learning experience. The use of MS Excel spreadsheet program is required.

**Sources of other references (optional):**

1. N. M. Fraser, E. M. Jewkes, M. Pirnia, *Engineering Economics, Financial Decision Making for Engineers*, the sixth Edition, Pearson, 2017.
2. P. Flynn (2009), *Financial Management for Engineers*, 4th ed., Castle Rock Research Corp., Edmonton.
3. P.G. Bergeron, *Finance for Non Financial Managers*, 6th Edition, Nelson, 2011.

The instructor has been asked to give a standard caution on plagiarism and cheating, which will be done in the first class. Students in engineering are on their way to a legally created professional status that involves a presumption of trust. Deliberate cheating would, in the professor's mind, be an indication that future inclusion in this professional group was inappropriate for the individual involved. To say this more plainly, a person who is not honest should not be an engineer. The majority of failing marks that the instructor had given were related to cheating, and the faculty may fail any student who cheats.

## **Student Evaluation**

<b>Component</b>	<b>Weight</b>
Assignments (5 @ 4% each)	20%
Midterm Exam #1	20%
Midterm Exam #2	20%
Final Exam	40%
<b>TOTAL</b>	<b>100%</b>

## **Assignments**

**Assignment contents** are based on selected problems from the textbook or prepared by the instructor pertaining to the conceptual application of course materials. Problem numbers are to be issued via eClass as the course progresses.

**Time Due:** At 11:00 AM just before the selected classes, according to the class schedule.

**Place Due:** Online PDF submission via eClass.

**Early Submissions:** The early submission window is from a time 24 hrs before and till the submission due time, i.e. 11:00 AM of the due day. (1) Only eClass PDF submissions are accepted. Make sure the file name follows “YOURLASTNAME\_ YOURFIRSTNAME EM 401 Assignment #x” or “YOURLASTNAME\_ YOURFIRSTNAME EM 401 Project #x.” The TA and the Marker shall complete each submission evaluation as soon as possible. The TA shall inform your grades by eClass grade book.

**Late Submissions:** **No late assignment submission is accepted.** Please note that the assignment solutions may be discussed in class immediately after they are due, with the solution notes published on the course web-page soon after. Therefore, assignments submitted after the solutions have been discussed or published will not be accepted for credit.

**Work Mode:** Assignments must be submitted individually. You may send clarification questions regarding the project to the TA first; if not resolved, to the instructor, who will then respond to you and the TA directly.

- (1) For assignment problems, you must present the solution in your own words and with your own calculations and spreadsheets. Copying from the existing solutions, for example, assignment notes circulated in other classes, and/or submitting copies of jointly-generated solutions, for example, spreadsheets from a single source file, is unacceptable, as it may constitute the offenses of plagiarism and cheating, respectively, under the University of Alberta *Code of Student Behavior*.
- (2) Students' completed works must be submitted individually. Students must work out the results without direct or indirect help from any other person. Collaborative work on problems is **NOT** allowed.
- (3) No collaboration means “*no discussion of any kind*”, including discussion of course concepts or of homework assignments related to the project, as well as sharing the ideas of any material related to the project from the textbook, course notes, handouts or other sources with your classmates or anyone else, from the instance the problems are assigned to the moment when solutions are discussed in class or published on the eClass course page. Any violation of this policy will be treated as an offence under the University of Alberta's *Code of Student Behavior*.

### Marking Scheme:

Assignments are marked by eClass automatically based on the original question setup inputs. A fully attempted assignment carries 4 marks of the total course on the basis of the correctness of the answers.

Assignments answers will be available soon after the due time. Grades are to be published within 7 working days after the submission for assignments. Those students in doubt may ask the TA to return the marked assignment and project submissions by specific email request only.

For the benefit of the whole class to timely share some useful information, the instructor may choose to publish general questions and the responses relevant to the clarity of the project (without student's personal information) via eClass if necessary.

### Exams

**Two** midterm and one final exams will be conducted and administered in classes as per the *schedule* provided in this document. The exams are not intentionally cumulative. However, the content in the three parts of the course are not mutually exclusive and tend to build on previous material, and so concepts introduced in one part of the course often reappear later in the course. The midterm exams are “open-book & open-notes” Multiple Choice Question (MCQ) type or True and False (T/F) type conducted via eClass. All questions are randomized. The duration of each midterm exam will be 45 minutes. Each midterm is in the multiple-choice format with typically 15-20 4-choice questions and 15-25 true-false ones. Midterm exams are evaluated by eClass marking system and inspected by the instructor. Exam marks are to be published as soon as possible by the eClass system. Note that Faculty of Engineering approves non-programmable calculators only.

If a student misses any ONE of the evaluation components, including midterm exams and assignments, due to an acceptable reason (medical or personal emergency), the rest of the collective evaluation components' marks, including those available marks of assignments, projects and midterms, will be scaled proportionally up to yield the full contribution to the final mark. If a student misses more than one assignment of the course, special consultancy to the instructor is required in order to work out a potential solution. A student's special request for missing more than one midterm exams or the final exam is usually denied by the instructor for the reason of course administration fairness unless a re-exam is to be taken. If a re-exam is granted under very strict circumstances, the exam will be comprehensive, i.e. using questions from the entire course material as covered in the course.

### Course Grading Method

Student evaluation will be performed and expressed in raw marks that are directly worked out based on percentage for each evaluation component during the course delivery. The total mark for the course will be obtained by assigning component weights given above to the marks obtained in individual components, and summing up the weighed marks. The letter grading system will then be applied to the class's final total marks only. The application of letter grades will be based on a combination of absolute accomplishment and this cohort relative performance. The instructor will decide the final grading scheme and may have to do fine cutting between grades with reference to the faculty's recommended curve. The final student grades will remain unofficial until approved by an appropriate university body. The previous offer's distribution is shown in the table below.

Total course marks	Grade
90 - 100	A+
83 - 89.99	A
78 - 82.99	A-
73 – 77.99	B+
65– 72.99	B
55 – 64.99	B-
49– 54.99	C+
0 - 48.99	To be determined

### **Academic Regulations**

- *"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.governance.ualberta.ca](http://www.governance.ualberta.ca) ) 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."* (GFC 29 SEP 2003)
- *"Audio or video recording of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Recorded material is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the instructor."*