EGR 2302 Spring 2009- Section 02
ENGINEERING ECONOMICS
SYLLABUS

General Information

Instructor: Dr Abdelaziz Berrado
Office: R 01 Bldg 6.
Phone: 2122.
Email: A.Berrado@aui.ma
Course Email: egr2302@aui.ma (to be used to submit online quizzes)
Lectures: TR 09:30-10:50 in R 003 Bldg 06

Office hours: M 17:30–19:00 & T12:30-15:30 & W 16:00-19:00 & R 12:30-14:00
Please honor these office hours and come prepared?

Home page: http://www.aui.ma/personal/~A.Berrado/EGR2302.htm
Prerequisite: MTH1303
Co-requisite: None
Offered in Semester: 1 & 2
Credit Hours: 3 Hrs

Catalogue description:
The time value of economic resources, engineering project investments analysis and the effect of
taxes on engineering project decisions.

About the course:

This course deals with the application of economic analysis models for decisions between
alternatives. In particular we approach problem solving by considering the time value of money. In
general, a dollar of revenue or expense today is not equivalent to a dollar of revenue or expense three
years from now. Concepts in this class are equally applicable to engineering, business and financial
systems problems.

Required textbook:


Learning aids:

The textbook has a web site that provides resources to aid you in learning the material in this class. It
includes selected solutions to textbook problems, true-false questions, matching quizzes, multiple
choice quizzes, learning objectives of each chapter and additional computer exercises. Feel free to
use the resources of the web site to assist in your learning process. You will locate it at :
http://www.mhhe.com/blank6
To get into the student edition, Username: blankstudent
Password: blank6e

Course objective:
Enable students to perform economic evaluation and develop cost models for integration with design
and operational problem solving.
**Intended learning outcomes:**

At the end of this course, a student should be able to:

1. have acquaintance with the subject of economic analysis, i.e. be able to formulate the problem, analyze it, search for alternative solution, select the preferred solution.
2. have a mastery of the notion of time value of money including the concepts of present worth, future worth, annuities, gradient series, geometric series.
3. be able to tackle reality issues and practical applications such as changing interest rates, inflation, loan payment operations and bond problems.
4. be familiar with methods of measuring investment worth.
5. be able to compare alternatives using the methods of measuring investment worth.
6. have an acquaintance with the economic analysis used in the public sector and government agencies.
7. be able to include depreciation in economic analysis.

**Course structure and other important comments:**

1. **Grading:** The course will consist of two 100-point examinations, and 100 points of homework assignments, pop quizzes, class attendance and participation and a comprehensive final exam worth 200 points making a maximum earned point total of 500 points. Students with 450 or more points will receive an A; between 400 and 450 will receive a B; 350-400 will receive a C; 300-350 will receive a D; and students who total below 300 will receive an F. The course structure and grading policy do not allow for the “earning” of additional credit or for the awarding of “bonus” points based on effort.

2. **Student’s efforts:** Besides class hours, every student should devote at least 6 hours a week to grasp the content of the book and the class notes, to work out the examples, and to do homework exercises. **You are welcome and highly encouraged** to see me during my office hours if you need any help with this class.

3. The instructor will make lecture notes (slides and other material) available on his website at the following address: http://www.aui.ma/personal/~A.Berrado/. The purpose of these lecture notes is to help the students summarize the material presented in class only, and cannot by any means substitute for regular attendance, active participation, and in-class note taking by the students.

4. **Homework:** The homework assignments will be announced in class and completed homeworks need to be submitted by the start of class on the due date. **Late homework will not be accepted. Only printed hard copies of the homework are acceptable; electronic versions will not be accepted.** It is your responsibility to obtain the assignments if you miss class. If you cannot come to class on the day of submission of homework, have your homework turned in through one of your classmates.

5. **Academic integrity:** Homework, Quizzes and Exams are to be accomplished without any form of outside assistance. For example, sharing answers, using answers from prior semesters, copying from others work, copying from the solution key, etc. are all inappropriate and will be considered cheating. All cases of cheating will be reported to the Dean’s office as a violation of the academic integrity policy and will be punished appropriately.
6. **Exams:** The exam dates are set and will not be changed. The content/coverage of the exams may be altered to reflect the rate of material presented in class. Makeup exams will not be given.

7. **Announcement:** All announcements regarding changes in the class will be made in class and posted on my homepage.

8. Regular attendance is essential. Students who miss a class are responsible of all the work, notes, handouts, and assignments they miss. **Please refer to the attendance policy section below.**

9. In order not to disturb the lecture, the students should always arrive on time and avoid leaving the class early. **Arriving late to the class 3 times** will account for **one unexcused absence.** Furthermore, everybody is asked to keep cell phones off during class sessions and abstain from unnecessary and unauthorized conversation.

**PS** Please note that the schedule below is tentative and when necessary changes will be adapted appropriately.

**Course Outline:**

<table>
<thead>
<tr>
<th>Sessions</th>
<th>Topics</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Introductory Material/Foundations of Engineering Economy</td>
<td>Ch 1</td>
</tr>
<tr>
<td>3-8</td>
<td>Factors: How Time and Interest Affect Money</td>
<td>Ch 2</td>
</tr>
<tr>
<td>9</td>
<td>Combining Factors</td>
<td>Ch 3</td>
</tr>
<tr>
<td></td>
<td><strong>EXAM I(Session 10)</strong></td>
<td>February 24th</td>
</tr>
<tr>
<td>11-12</td>
<td>Nominal and Effective Interest Rates</td>
<td>Ch 4</td>
</tr>
<tr>
<td>13 - 14</td>
<td>Present Worth Analysis</td>
<td>Ch 5</td>
</tr>
<tr>
<td>15</td>
<td>Annual Worth Analysis</td>
<td>Ch 6</td>
</tr>
<tr>
<td>16 - 17</td>
<td>Rate of Return Analysis</td>
<td>Ch 7</td>
</tr>
<tr>
<td>18 -19</td>
<td>Rate of Return Analysis</td>
<td>Ch 8</td>
</tr>
<tr>
<td></td>
<td><strong>EXAM II(Session 20)</strong></td>
<td>April 09th</td>
</tr>
<tr>
<td>21</td>
<td>Benefit/Cost Analysis</td>
<td>Ch 9</td>
</tr>
<tr>
<td>22-23</td>
<td>Effects of Inflation</td>
<td>Ch 14</td>
</tr>
<tr>
<td>24 – 25</td>
<td>Depreciation Methods</td>
<td>Ch 16</td>
</tr>
<tr>
<td>26 - 27</td>
<td>Other topics</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>FINAL EXAM (to be decided)</strong></td>
<td>May 13th-18th</td>
</tr>
</tbody>
</table>

**Holidays:**

**March 2-10** Mid-semester Break and Aid Al Mawlid holiday

**Attendance Policy**

Attendance has been shown to be a key factor in academic success. Any absence, regardless of the reason, will prevent the student from getting the full benefit of the course. Therefore, students should recognize the advantages of regular and punctual class attendance, accept it as a personal responsibility, and apprise themselves of the consequences of poor attendance.

Policy: Absences are controlled by faculty members. The number of absences for whatever reason (except as indicated in points 1.1, 1.2, and 1.3) is taken into account in the final grade.
1. Excused Absences
Students may be authorized by instructors to be absent from class for institutional reasons as specified in 1.1, and 1.2 below. However, the instructor may deny the student permission to be absent if the student’s academic performance is not judged to be adequate. Once approved, these absences should not count in the student’s absence record. Instructors should be informed before the absence to agree with the student on a suitable time and manner for a make up should it be necessary. A maximum of three of these absences per semester could be authorized.

1.1 External Events: student must submit a completed and signed form from the Office of Student Activities to the instructor. Examples of these absences include participation in university-sponsored sports, cultural or other events as a University representative.

1.2 Field Trips as part of a class requirement or as authorized by a Dean: the Dean’s assistant of the school offering or authorizing the trip should sign the absence request form.

1.3 In case of protracted illness or emergency condition necessitating hospitalization, students may exceptionally appeal to the Dean of Student Affairs so as not to be dropped from a course. However, extended illness may lead to the semester not being validated. **No other justification will be accepted.** Students should be prepared in case they have to be absent for personal or family reasons.

2. Impact of absences on grades
Each unauthorized absence shall result in **one grade being deducted from the class participation grade up to the limit set in section 3 below when a WF is assigned.**

3. Ceilings before a WF is assigned
When a student exceeds the ceiling of **5 absences**, the instructor may sign an administrative withdrawal form.

4. Pre-authorized absences
Notification of planned absences using the **Absence Requests Form** available at the Student Activities Office must be delivered to the instructor, with permission signed and dated by the instructor. Once notified of planned absence, the instructor should inform the student of the deadline for completion of any missed assignment or examination where applicable. **Make-up examinations, if necessary and acceptable to the instructor, shall be at a time and place mutually agreed upon by the instructor and students.**

4.1 Each week an email will be generated from the system to all students informing them about their absence record. The Dean of Student Affairs or his representative will monitor the system and call in students with an attendance problem and direct them to the proper assistance service.

4.2 During the Add and drop period, no absence is accepted in a course; add and drop should be done outside class time.

4.3 In case of a late registration, students assume full responsibility for their absences as recorded from the first day of classes.

5. Administrative Withdrawal
When a student has exceeded the maximum number of absences according to the mentioned ceiling (except as stated in points 1.1 and 1.2); the instructor has the right to **drop a student from a course with a “WF” grade.** Special hardship cases as stated in 1.3 above may be referred by the Dean of Student Affairs to the Dean/Director’s appreciation.

The “Administrative withdrawal form” must reach the Registrar’s Office at least 5 days prior to the first day of final exams.