UNIVERSITY OF TEXAS AT EL PASO  
DEPARTMENT OF CIVIL ENGINEERING

Spring 2011  
BE 2326 (26693)  
MW 7:30 -8:50AM CRBL C205

INSTRUCTOR: Charles D. Turner, Ph.D., P.E., LEED AP  
Teaching Assistant Joseph Piñon Engr 210, josephc@miners.utep.edu Office hours: Tuesday and Thursday: 1:00 – 3:00 PM, Friday 10:00 – Noon.  
OFFICE, PHONE, E mail/web: Engineering Annex 206, 747-6908, cturner@utep.edu  
OFFICE HOURS: Monday, Wednesday, 10:30am to 11:30am  

Catalog Description:  
This course covers the basics of economic analysis from an engineering perspective. Because cost is such an important component in decision making, various techniques for comparing alternatives on an economic basis are presented. Other topics include depreciation, inflation considerations, and cost estimating.
Course Objectives:

1. After completing the course, the student should be able to identify which alternative should be selected from two or more mutually exclusive alternatives on the basis of economic considerations.
2. Develop knowledge sufficient to pass the engineering economy section of the Fundamental Exam (FE/EIT) exam and the Professional Engineering (PE) examination.
3. The Engineering Economic course will include lectures to address "Applications of Engineering Economic to Social Science Problems". Lectures will include examples on how to apply engineering economic principles to social science problems. Through these examples and assignments, students will learn how to analyze the effects of historical, social, political, economic, cultural, and global forces. Different points of view will be discussed to analyze historical evidence using statistical methods tied to engineering economic methods. A core objective of these lectures included in the syllabus is to enhance students’ skills to successfully analyze, critically assess, and develop creative solutions to public policy problems.
4. Develop an awareness of the environment in which we, as a society, live and the significance of the local, state, national and global problems that face the engineering community.

Educational Methodology: Active Learning

1. You should come to class prepared.
2. Students who spend 9 hours per week preparing for a three credit class are likely to earn a B or better grade and those who spend 6 hours per week are likely to earn a C or lower grade.
3. Spend 30 minutes prior to class going over the assignment for that day.
4. For the last two spring semesters, both classes with over 60 students, those with zero to one absence earned a grade of A or B; students with two to five absences earned a grade of C; students with six or more absences earned a D or F grade. Attendances were not used in any way to calculate the final grades.
5. Mastering the terminology and doing the problems is essential to understanding the material.
6. I am looking forward to working with you this semester and hope that we will all learn from the experience.

COURSE REQUIREMENTS

1. Homework: Home work will be assigned every week. Work must be professional, i.e., neat, logical, complete, and include diagrams and schematics if needed. Problems should include Given, Find, and Solution sections. The top of each problem should include problem number, problem due date, class, and your name. One homework problem out of the problem set will be collected from each individual at the beginning of class on the due date – you must have it ready at the beginning of class – not later on. No credit for late homework. Home work will be returned within one week.
2. Progress Verification:
   - Quizzes will be given once per week on a random basis at the beginning of class. Quizzes will cover the material covered since the last quiz.
   - Two hour exams will be given during the course of the semester.
   - Comprehensive Final Exam

Grade Determination:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Class Participation</td>
<td>5%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>25%</td>
</tr>
<tr>
<td>Hour Exams</td>
<td>30%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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</tbody>
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Grading Scale:

- A 100 – 90
- B 89 - 80
- C 79 - 70
- D 69 - 60
- F 59 – 0

Any makeup exams will be given on Dead Day, May 6.

Any instance of cheating or plagiarism (academic dishonesty) will be reported to the Dean of Students for appropriate action (which includes possible failure in the course and/or dismissal from the University). *Cheating will not be tolerated.*

**Attendance:**

Class attendance is mandatory. If you have six unexcused absences from class, you may be dropped from the course. The grade that you receive will be a W until April 1. After this date, you will receive an F.

Absences for University sponsored activities such as athletics, band/orchestra, cheerleading, or field trips will be excused only if I am notified before the absence occurs. You are responsible for obtaining notes, handouts, and assignments and for meeting the same deadlines as the rest of the class.

**Classroom Etiquette:**

Being on time: Part of being a professional is being on time and being prepared to do your job. This applies to your career as a student as much as it does to your future career as an engineer. Coming to class late is unprofessional and is very disruptive to the class. It interferes with the instructor's presentation, but more importantly, it interferes with the other students' concentration. You are expected to be in class and prepared to participate when the class bell rings. If you are late to class, you are to come in quietly and take a seat in the back of the room. You can pick up class handouts after class. Do not bother other students to find out what is going on.

Cell Phones: Turn them off or on silent – no texting or talking. If it is that important – leave the classroom and do not return during class – it is disruptive. I turn mine off.

**Religious Holidays:**

"Students will receive permission to be absent for the observance of a religious holy day if the student has so notified the instructor of his/her intent in writing no later than the 15th day of the academic term. Students so excused will be permitted to take missed exams or complete assignments." UTEP Catalog.

"**The best way to avoid being miserable is not to have enough leisure to wonder whether you are happy or not.**" George Bernard Shaw.

**Course Outline**

<table>
<thead>
<tr>
<th>Dates</th>
<th>Topics</th>
<th>Reading &amp; HW Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/17</td>
<td>M Martin Luther King Holiday</td>
<td></td>
</tr>
<tr>
<td>1/19</td>
<td>W Introduction &amp; Chapter 1</td>
<td></td>
</tr>
<tr>
<td>1/24</td>
<td>M Chapter 1 Foundations</td>
<td>pp 1-4 Prob #1,1,6,9,11,20,28,32,33,39,45-50</td>
</tr>
<tr>
<td>1/26</td>
<td>W Chapter 2 Time, Interest &amp; Money</td>
<td>pp 48-90</td>
</tr>
<tr>
<td>1/31</td>
<td>M Chapter 3 Combining Factors</td>
<td>pp 92-123</td>
</tr>
<tr>
<td>2/2</td>
<td>W Chapter 4 Nominal &amp; Effective Interest Rates</td>
<td>pp 124-162s</td>
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There's no such thing as a free lunch.

The original quote is from a custom in San Francisco saloons in the 19th century, often attributed to sci-fi writer Robert Heinlein from his 1966 novel, *The Moon is a Free Mistress*. This phrase
was picked up and popularized by Milton Friedman in economics classrooms. He highlighted the underlying economic principle that even when something looks as if it's free, it's usually not. Whether the supplier is a friend, a business, or the government, we ultimately pay for what we get. See the discussion in this EconTalk podcast, [Chris Anderson on Free](https://www.econtalk.org/).

Ten Principles of Academic Integrity
by Donald McCabe and Gary Pavela

1. **Affirm the importance of academic integrity.**
   Institutions of higher education are dedicated to the pursuit of truth. Faculty members need to affirm that the pursuit of truth is grounded in certain core values, including diligence, civility, and honesty.

2. **Foster a love of learning.**
   A commitment to academic integrity is reinforced by high academic standards. Most students will thrive in an atmosphere where academic work is seen as challenging, relevant, useful, and fair.

3. **Treat students as ends in themselves.**
   Faculty members should treat their students as ends in themselves - deserving individual attention and consideration. Most students will generally reciprocate by respecting the best values of their teachers, including a commitment to academic integrity.

4. **Promote an environment of trust in the classroom.**
   Most students are mature adults, and value an environment free of arbitrary rules and trivial assignments, where trust is earned, and given.

5. **Encourage students responsibility for academic integrity.**
   With proper guidance, students can be given significant responsibility to help promote and protect the highest standards of academic integrity. Students want to work in communities where competition is fair, integrity is respected, and cheating is punished. They understand that one of the greatest inducements to engaging in academic dishonesty is the perception that academic dishonesty is rampant.

6. **Clarify expectations for students.**
   Faculty members have primary responsibility for designing and cultivating the educational environment and experience. They must clarify their expectations, in advance, regarding honestly in academic work, including the nature and scope of student collaboration. Most students want such guidance, and welcome it in course syllabi, carefully reviewed by their teachers in class.

7. **Develop fair and relevant forms of assessment.**
   Students expect their academic work to be fairly and fully assessed. Faculty members should use - and continuously evaluate and revise - forms of assessment that require active and creative thought, and promote learning opportunities for students.

8. **Reduce opportunities to engage in academic dishonesty.**
   Prevention is a critical line of defense against academic dishonesty. Students should not be tempted or induced to engage in acts of academic dishonesty by ambiguous policies, undefined or unrealistic standards for collaboration, inadequate classroom management, or poor examination security.

9. **Challenge academic dishonesty when it occurs.**
   Students observe how faculty members behave, and what values they embrace. Faculty member who ignore or trivialize academic dishonesty send the message that the core values of academic life, and community life in general, are not worth any significant effort to enforce.

10. **Help define and support campus-wide academic integrity standards.**
    Acts of academic dishonesty by individual students can occur across artificial divisions of departments and schools. Although faculty members should be the primary role models for academic integrity, responsibility for defining, promoting, and protecting academic integrity must be a community-wide concern - not only to identify repeat offenders, and apply consistent due process procedures, but to affirm the shared values that make colleges and universities true communities.
Professor Herman stopped when he heard that unmistakable thud — another brain had imploded.