

**Syllabus Spring 2023**  
**Economy for Engineers & Scientists - CE 2326 - 005**  
 CRN 25698; Jan 17 - May 04, 2023; In Class, Online Synchronous

Instructor: L.G. Perez, Ph.D.  
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 Office Hours: TR 30 minutes after class or by appointment  
**Class Hours: TR 1:30 pm – 2:50 pm**  
 Classroom: UGLC 220

### Course 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, cost estimating, and sensitivity analysis. 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.

### Objective

Understand basic economic concepts (e.g., time value of money, present worth, rate of return, cost estimation, inflation, etc.) and their application in engineering.  
 Identify which alternative should be selected on the basis of economic considerations.

### Textbook Information

Required Text: Basics of Engineering Economy, 3<sup>rd</sup> ed, 2021  
 Authors: Leland Blank and Anthony Tarquin

### Organization and Method of Instruction

The course will be taught using two venues (in the classroom, on-line Sync/ Asynchronous). Refer to the syllabus as a guide of how lectures will be delivered (at UTEP or BB Zoom) Use of Blackboard, archived presentations and web-based instruction may be used.

### Grade Determination

≥ 90 -----	A
80 - < 90 -----	B
70 - < 80 -----	C
60 - < 70 -----	D
<60 -----	F

	Exams	Quizzes	Journal Checks	Homework Checks	Participation	Final	Total
Number	4	1	1-2	1-2	1	1	
Points	12 or varies	4	6 or varies	4 or varies	4	24	
Total	48	04	12	08	04	24	100

## **Class Policy**

**Attendance is mandatory.** You will be on your honor as future engineers. All exams, quizzes and the final are closed book. Note cards or other resources are NOT allowed. You will need to bring a 10% interest table with you to all exams, quizzes and the final. All communication devices including calculators with a communications capability are disallowed during exams.

### **All devices with a communications capability will need to be stowed away during exams.**

Students are required to take exams in the classroom and will not be allowed to leave the room once the exam has started. A failing grade will be assigned to the student's exam for any student that takes the exam other than in the classroom or leaves the room during an exam. Please attend to bathroom requirements before start of an exam. Once you begin the exam, quiz or survey, you must complete it.

**Prior to leaving from an exam, students must show their grade to the instructor.**

**A Final Exam grade of less than 30 will result in a final course grade of no higher than a 69.**

Grading appeals must be submitted to the instructor, in writing via email, no more than two weeks after the grade is returned or made available to the student. **Do not miss exams. Make-up exams will not be given.** Excuses such as weddings (other than your own) or quinceneras will **NOT** be valid excuses to miss a test or the final exam. In the event of a pre-mediated absence from an exam for such reasons as university sponsored activity, severe family emergencies or hospitalization, the instructor must be notified as early as possible **before** the date of the exam via email with documentation.

## **Academic Integrity**

Academic regulations and procedures are governed by university policy. Students must abide by university rules on Academic Integrity and Scholastic Dishonesty. All students must do their own work on quizzes and exams. Any student **warned and/or suspected** of cheating will not be eligible for extra credit and participation points will be deducted. Students found cheating will face severe consequences. If any one student is found cheating, all extra credit is void for the entire class.

## **Special Accommodations**

The University of Texas at El Paso provides, upon request, appropriate academic accommodation for students with disabilities. Please coordinate with the Center for Accommodations and Support Services instructor and the instructor early to ensure accommodations are provided in a timely manner. For more information, contact the Center for Accommodations and Support Services (<http://sa.utep.edu/cass/>).

## **COVID-19 PRECAUTION STATEMENT**

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to [covidaction@utep.edu](mailto:covidaction@utep.edu), so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is still available in the El Paso area. For more information about the current rates, testing, and vaccinations, please visit [epstrong.org](http://epstrong.org).

**Class Schedule** (Thursday Classes on Zoom) Except Jan 19, 2023 will be at UGLC

Week of	Chapter & Pages	Assignment	Notes
Tuesday, January 17, 2023	Chapter 1 35 pp	Introduction, Read Chapter, Refer to BB for homework	
Thursday, January 19, 2023			
Tuesday, January 24, 2023	Chapter 2 24 pp	Factors: How Time and Interest Affect Money	
Thursday, January 26, 2023			
Thursday January 31,, 2023	Chapter 3 22 pp	Nominal and Effective Interest Rates	
Thursday, February 2, 2023			
Tuesday, February 7, 2023		<b>Exam 1: Chap 1 - 3</b>	
Thursday, February 9, 2023	Chapter 4 19 pp	<b>Chap 4 Present Worth Analysis</b>	
Tuesday, February 14, 2023			
Thursday, February 21, 2023	Chapter 5 11 pp	<b>Chap 5 Annual Worth Analysis</b>	
Tuesday, February 23, 2023			
Thursday, February 28, 2023	Chapter 6 30 pp	<b>Chap 6 Rate of Return Analysis</b>	
Thursday, March 2, 2023			
Tuesday, March 7, 2023		<b>Exam 2: Chap 4 - 6</b>	
Thursday, March 9, 2023	Chapter 7 19 p	<b>Benefit / Cost Analysis and PS Projects</b>	
Tuesday, March 14, 2023		Spring Break Mar 13 - 17th	Spring Break
Thursday, March 16, 2023		Spring Break Mar 13 - 17th	Spring Break
Tuesday, March 21, 2023			
Thursday, March 23, 2023	Chapter 8 41 pp	<b>Breakeven, Payback, Sensitivity, and Risk Analysis</b> (not all sections)	
Tuesday, March 28, 2023			
Thursday, March 30 , 2021	Chapter 9 17 pp	<b>Replacement and Retention Decisions</b>	
Tuesday, April 4, 2023		<b>Exam 3: Chap 7 - 9</b>	
Thursday, April 6, 2023	Chapter 10 19 pp	<b>Effects of Inflation</b>	
Tuesday, April 11, 2023			

Thursday, April 13, 2023			
Tuesday, April 18, 2023	Chapter 11 24 pp	<b>Chap 11 Cost Estimation and Allocation</b>	
Thursday, April 20, 2023			
Tuesday, April 25, 2023	Chapter 12, 13 20 pp	Summary Review	
Thursday, April 27, 2023		<b>Final Homework, Journal Review</b>	
Tuesday, May 2, 2023		<b>Exam 4: Chap 10 - 12</b>	
Thursday, May 4, 2023			
<b>Thursday, May 11, 2021</b>	UGLC	<b>Final Exam - Thursday, May 11, 1:00 pm - 3:00 pm</b>	

**FINAL EXAM: THURSDAY MAY 11, 2023 @ 1:00 pm UGLC**