

**Syllabus Fall 2023**  
**Economy for Engineers & Scientists - CE 2326 - 001**  
 CRN 12632; Aug 28, 2023 – Dec 07, 2023; In Class, Online Synchronous

Instructor: L.G. Perez, Ph.D.  
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 Office Hours: MWF 30 minutes after class or by appointment  
 Class Hours: 11:30 am – 12:20 pm MWF  
 Classroom: Quinn 212

### 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, sensitivity analysis, and financial life events. 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). 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 & Assignments	Journal Checks	Homework Checks	Participation	Final	Total
Number	4	4	1-2	1-2	1	1	
Points	11 or varies	2	6 or varies	3 or varies	1-4	26	
Total	44	8	12	06	04	26	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. Students leaving the examination room without prior approval will receive a failing grade on the exam. 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 & Illness Statement**

Please stay home if you have been diagnosed with COVID-19, are experiencing COVID-19 symptoms or are not well. 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 receive information at [covidaction@utep.edu](mailto:covidaction@utep.edu)

week	Date	When	Mark	Sections
1	Mon	8/28/2023	<b>Chap 1 Introduction, Foundations of Engineering Economy</b>	7
2	Wed	8/30/2023	<i>Chap 1. Last Topic:</i>	
3	Fri	9/1/2023	<i>Chap 1. Last Topic:</i>	
4	Mon	9/4/2023	<b>Holiday Labor Day</b>	
5	Wed	9/6/2023	<b>Chap 2 Factors: How Time and Interest Affect Money</b>	5
6	Fri	9/8/2023	<i>Chap 2. Last Topic:</i>	
7	Mon	9/11/2023	<i>Chap 2. Last Topic:</i>	
8	Wed	9/13/2023	<i>Fall Census Chap 2. Last Topic:</i>	
9	Fri	9/15/2023	<b>Exam 1 Chap 1, 2</b>	
10	Mon	9/18/2023	<b>Chap 3 Nominal and Effective Interest Rates</b>	8
11	Wed	9/20/2023	<i>Chap 3. Last Topic:</i>	
12	Fri	9/22/2023	<i>Chap 3. Last Topic:</i>	
13	Mon	9/25/2023	<i>Census Day</i>	
14	Wed	9/27/2023	<b>Chap 4 Present Worth Analysis</b>	6
15	Fri	9/29/2023		
16	Mon	10/2/2023		
17	Wed	10/4/2023	<b>Chap 5 Annual Worth Analysis</b>	4
18	Fri	10/6/2023		
19	Mon	10/9/2023		
20	Wed	10/11/2023	<b>Chap 6 Rate of Return Analysis</b>	8
21	Fri	10/13/2023		
22	Mon	10/16/2023		
23	Wed	10/18/2023	<i>Chap 1. Last Topic:</i>	
24	Fri	10/20/2023	<b>Exam 2 Chap 4, 5, 6</b>	
25	Mon	10/23/2023	<b>Chap 7 Benefit / Cost Analysis and PS Projects</b>	5
26	Wed	10/25/2023	<i>Chap 1. Last Topic:</i>	
27	Fri	10/27/2023		
28	Mon	10/30/2023	<b>Cp 8 Breakeven, Payback, Sensitivity, and Risk Analysis (not all sections)</b>	
29	Wed	11/1/2023	<i>Chap 1. Last Topic:</i>	
30	Fri	11/3/2023		
31	Mon	11/6/2023	<b>Chap 9 Replacement and Retention Decisions</b>	5
32	Wed	11/8/2023	<b>Exam 3 Chap 7 - 9</b>	
33	Fri	11/10/2023		
34	Mon	11/13/2023	<b>Chap 10 Effects of Inflation</b>	5
35	Wed	11/15/2023	<i>Chap 1. Last Topic:</i>	
36	Fri	11/17/2023		
37	Mon	11/20/2023	<b>Chap 11 Cost Estimation and Allocation</b>	4
38	Wed	11/22/2023	<i>Chap 1. Last Topic:</i>	
39	Fri	11/24/2023	<b>Holiday</b> Thanksgiving Holiday Nov 23 - 24	
40	Mon	11/27/2023		
41	Wed	11/29/2023	<i>Chap 1. Last Topic:</i>	
42	Fri	12/1/2023	<b>Chap 12,13 Summary Review</b>	

43	Mon	12/4/2023	<b>Exam 4 Chap 10 – 12</b>	
44	Wed	12/6/2023	<i>Last class day for this class</i>	
45	Fri	12/8/2023	<i>Dead Day</i>	
44	Wed	#REF!	<i>FINAL EXAM 1:00 PM</i>	