



ÇANKAYA UNIVERSITY
FACULTY OF ENGINEERING
Department of Industrial Engineering
IE 345
Engineering Economy
Spring- 2025



TENTATIVE COURSE SYLLABUS

Course Code : IE 345 Credit Hours : (3 0 3) 4 Students : Non-IE Semester : Spring 2025
Course Title : Engineering Economy Pre-requisites : --- Year : 4 Sections : 01

Instructor: **Dr. Özgür A. TARAKCI** E-mail: otarakci@cankaya.edu.tr

Catalog Description: This course highlights the importance of economic principles in engineering applications, especially in project evaluation procedures. Basics of economic evaluation of engineering decisions such as time value of money, inflation, depreciation and income taxes and related techniques are given.

Course Outline: The following topics will be covered:

	Title
1	Foundations of Engineering Economy, Time Value of Money and Economic Equivalence
2	Engineering Economy Factors: How Time and Interest Affect Money
3	Combining Engineering Economy Factors
4	Nominal and Effective Interest Rates
5	Methods for Project Evaluation and Selection: Present Worth Analysis
6	Methods for Project Evaluation and Selection: Annual Worth Analysis
7	Rate of Return Analysis: Single Project
8	Rate of Return Analysis: Multiple Alternatives
9	Rate of Return Analysis: Multiple Alternatives (continued)
10	Public Sector Projects and Benefit/Cost Analysis
11	Breakeven and Payback Analysis
12	Replacement and Retention Decisions
13	Cost Concepts and Basics of Cost Analysis, Depreciation Methods and After-Tax Economic Analysis
14	Effects of Inflation

Textbook: The course is based around the following textbook:

Leland Blank and Anthony Tarquin, "Engineering Economy", 7th ed., McGraw-Hill Education, (2012). ISBN 978-0071086097.

References: The following useful reference books are available in the University Library:

Chan S. Park, "Contemporary Engineering Economics", 6th ed., Pearson Ed. Ltd., (2016), ISBN 978-1292109091

William G. Sullivan, Elin M. Wicks, and C. Patrick Koelling, "Engineering Economy", 16th ed., Prentice Hall, (2014). ISBN 978-0133439274

Donald G. Newnan, Jerome P. Lavelle, and Ted G. Eschenbach, "Engineering Economic Analysis", 12th ed., Oxford University Press, (2013), ISBN 978-0199339273

Teaching Method: Teaching will be based on enabling the students to understand the concepts and procedures in each topic section and to be able to apply them.

Lectures: In lectures, the instructor will attempt to summarize and explain only selected important concepts and points as clearly as possible. To be familiar with the material presented in lectures and to participate in class discussions, the students are expected to read the material covered in the previous lectures prior to the class meeting. Students will then find the lectures more interesting, and will benefit from the discussion if they come well prepared.

Homework: Students should work on two separate sets of assigned questions in order to get prepared for midterm and final exams. Students should form groups of at most 4 students in order to perform homework.

Exams: All examinations will be based on lectures, tutorials, labs, and project work. To pass these exams students will need to have studied the material well in advance in order to understand the concepts, procedures and techniques. To discourage last minute cramming, the instructor and the assistants will not answer any questions from students on the day of an examination. Descriptions of these examinations are as follows:

Midterm Exam: There will be one midterm examination that covers all the material up to the date of the examination.

Final Exam: The Final Examination will cover all the material studied throughout the semester, but the emphasis will be on the material covered after the midterm exam topics.

Make-up Exam: Make-up examination will only be offered (at the end of the semester) to students who missed the final examination or midterm exam and provided adequate documentations for the reason of their absence. Make-up exam may have a different format and may contain different type of questions than the regular exam.

Attendance: Attendance at lectures will be taken by students themselves via weonline and it is of student's benefit to attend all of the lecture hours. It is best if you fully attend every hour. If you miss even a single hour, you will find it hard to understand the following course material since the topics are interrelated.

Academic Integrity: All students enrolled to this course are expected to act honestly and ethically and should declare her/his understanding and belief in the Honor Code stated below. Therefore, any form of dishonesty will not be tolerated. If you conduct any dishonest act during any course activity (i.e., cheating on exam, using any extra material that you are not allowed to use during an exam, copying materials off of someone else's homework or assignment, knowingly assisting other students to cheat, using solution keys from previous years, copying materials from published and electronic sources without paraphrasing and/or citing appropriately), you will get a credit of zero on that particular exam or assignment. Necessary disciplinary action(s), as dictated by the rules of Çankaya University, will also be taken.

Honor Code: Every student enrolled to this course should declare her/his understanding and belief in the Honor Code stated below by writing the Honor Code with her/his hand writing and signing it.

I hereby declare that in all the activities related to this course I'm enrolled: I will neither give nor receive any aid during the exam; I will not submit any assignment, project, report, or similar work which includes any part other than my or our group's work without citation and it will totally be my / our work.

[Burada kayıt olduğum bu ders ile ilgili tüm aktivitelerde: sınav sırasında hiç kimseden hiçbir şekilde yardım almayacağımı ve hiçbir kimseye hiçbir şekilde yardım etmeyeceğimi; sunacağım ödevlerin, projelerin, raporların, vb. işlerin, benim veya grubumun çalışması dışında referans vermeden hiçbir kısım içermeyeceğini ve tamamen kendi eserim / eserimiz olduğunu beyan ederim.]

Tentative Grading:

Homework (2 HW, 10% each)	20 %
Midterm Exam	30 %
Final Exam	50 %
TOTAL	100 points

Note that the instructor reserves the right to modify these percentages in case he finds it necessary. Letter grade equivalents of numerical performances will be announced by the Registrar's Office after the last day for the submission of letter grades.

NA Grading: Not attending the Midterm Exam (or its makeup) or the Final Exam (or its makeup);

- If you fail to take the midterm exam (or its makeup), you will NOT be able to take the final exam and you will receive the letter grade NA.

- If you are eligible to take the final exam but fail to take it (or its makeup) you will receive the letter grade NA.

Course Website: Communication will be made through course page at <http://weonline.cankaya.edu.tr>

Announcements, lecture notes, grades, and other information will be uploaded to course page.

Every student should check the course page regularly. Students are also responsible for printing the course material (lecture notes, exercises, etc.) from the course web page.

**NOTE THAT EVERYTHING ON THIS SYLLABUS IS SUBJECT TO CHANGE.
STUDENTS WILL BE NOTED ABOUT ANY CHANGE.**