



BOĞAZIÇI UNIVERSITY
Department of Industrial Engineering

Course Syllabus

Academic year	2016-2017 / Spring
Course Code, Title, and Credit	IE 341; Engineering Economics; (3+0+2) 4 credits (ECTS 7).
Lecture Hours and Places	Monday 15:00 - 15:50 (7 th slot); M2181 Wednesday 15:00 - 15:50 (7 th slot); M2171 Wednesday 16:00 - 16:50 (8 th slot); M2171 Friday 12:00 - 12:50 (4 th slot); M2200 Friday 13:00 - 13:50 (5 th slot); M2200
Lecturer	Asst. Prof. Dr. Hakan Yaşarcan
Lecturer E-mail	hakan.yasarcan@boun.edu.tr
Lecturer Office	M4084; Engineering Faculty Building; 4 th floor.
L. Office Phone	+ 90 212 359 4629
L. Office Hours	To be announced.
Teaching Asst.	Merve Cerit (senior student)
T.A. E-mail	mmervecerit@gmail.com
Course Objectives	Besides technical details, today's engineers should have many other concerns in developing solutions to engineering problems; they need to develop environmentally friendly, socially responsible, and economically feasible solutions. The aim in this course is to teach engineering students how to economically evaluate a single solution or compare different alternatives. At the end of the course, students will gain the knowledge and capability to perform financial analysis especially in the area of capital investment.
Text Book	<i>Engineering Economy</i> ; William G. Sullivan, Elin M. Wicks, and C. Patrick Koelling; Pearson Education - Prentice Hall; 15 th edition; 2011.
Lecture Notes	Lecture notes are essential.

Course Evaluation	<p>Score 1 = $(0.20 \times \text{Quiz Average} + 0.35 \times \text{Midterm Exam Result}) / 0.55$</p> <p>Score 1 values will be used to rank students. Students who get reasonably high Score 1 values will earn the right to take the final exam. Students who get low Score 1 values will not earn the right to take the final exam and will automatically receive F from this course.</p> <p>Score 2 = $0.20 \times \text{Quiz Average} + 0.35 \times \text{Midterm Exam Result} + 0.45 \times \text{Final Exam Result}$</p> <p>Score 2 values will be used to rank students who receive the final exam. Students who get reasonably high Score 2 values will manage to earn a passing letter grade such as AA, BA, BB, CB, CC, DC, or DD. Students who get low Score 2 values will receive F.</p>
Exams	<p>There will be one midterm exam and many quizzes during the semester and a comprehensive final examination at the end. All examinations will be of closed-book/closed-notes type. More specific information will be provided before each exam. The instructor and teaching assistant will not answer exam related questions of the students on the exam day and also on the day before the exam day.</p>
Attendance and Participation	<p>The topic is new to the students and each lecture will depend on the previous lectures. Absenteeism may result in total failure and, therefore, should be avoided. Students are encouraged to ask questions during the lectures because student participation is an important factor in learning.</p>
Course Outline	<p>WEEK 1 (06.02.2017 Monday, 08.02.2017 Wednesday, 10.02.2017 Friday)</p> <ul style="list-style-type: none"> > Course Organization and Overview > Introduction to Engineering Economics > Modeling, Models in Engineering Economics, and Model Assumptions > Breakeven Point Analysis > Simple and Compound Interest > The Concept of Equivalence and The Time Value of Money > Cash-Flow Diagrams <p>WEEK 2 (13.02.2017 Monday, 15.02.2017 Wednesday, 17.02.2017 Friday)</p> <ul style="list-style-type: none"> > Derivation and Application of Factor Formulas <p>WEEK 3 (20.02.2017 Monday, 22.02.2017 Wednesday, 24.02.2017 Friday)</p> <ul style="list-style-type: none"> > Bisection Search Method in Engineering Economics > Nominal and Effective Interest Rates <p>WEEK 4 (27.02.2017 Monday, 01.03.2017 Wednesday, 04.03.2017 Friday)</p> <ul style="list-style-type: none"> > Investment Categories > Types of Alternatives > Minimum Attractive Rate of Return (MARR) > Models and Assumptions Re-visited <p>WEEK 5 (06.03.2017 Monday, 08.03.2017 Wednesday, 10.03.2017 Friday)</p> <ul style="list-style-type: none"> > Present Worth Comparison of Equal and Different Life Alternatives > Capitalized Worth, Annual Worth, and Future Worth <p>WEEK 6 (13.03.2017 Monday, 15.03.2017 Wednesday, 17.03.2017 Friday)</p> <ul style="list-style-type: none"> > Payback Period Analysis > Rate of Return Calculations <p>WEEK 7 (20.03.2017 Monday, 22.03.2017 Wednesday, 24.03.2017 Friday)</p> <ul style="list-style-type: none"> > Incremental Rate of Return Analysis > Depreciation Terminology

Course Outline (continued)	<p>WEEK 8 (27.03.2017 Monday, 29.03.2017 Wednesday, 31.04.2017 Friday) > Introduction to Depreciation and After-Tax Analysis > Depreciation Methods</p> <p>WEEK 9 (03.04.2017 Monday, 05.04.2017 Wednesday, 07.04.2017 Friday) > Market-Value Estimation Methods > After-Tax Analysis</p> <p>WEEK 10 (10.04.2017 Monday, 12.04.2017 Wednesday, 14.04.2017 Friday) > After-Tax Analysis (continued) > MIDTERM EXAM</p> <p>WEEK 11 (17.04.2017 Monday - 21.04.2017 Friday) Spring Break</p> <p>WEEK 12 (24.04.2017 Monday, 26.04.2017 Wednesday, 28.04.2017 Friday) > Inflation > After-Tax Analysis in the Presence of Inflation</p> <p>WEEK 13 (03.05.2017 Wednesday, 05.05.2017 Friday) > Replacement Analysis</p> <p>WEEK 14 (08.05.2017 Monday, 10.05.2017 Wednesday, 12.05.2017 Friday) > Replacement Analysis (continued)</p> <p>WEEK 15 (15.05.2017 Monday) > Evaluating Projects using the Benefit-Cost Ratio Method (15.05.2017 Monday; the last day of classes)</p>
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**Opposite of “succeeding” is not “failing”, it is “giving up” or “not even trying”.
Accordingly, our failures are the steppingstones in achieving success.**

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WE WISH YOU ALL A NICE AND SUCCESSFUL SEMESTER!