

# ENGINEERING ECONOMICS

<b>1</b>	Course Title:	ENGINEERING ECONOMICS
<b>2</b>	Course Code:	TEK4741-S
<b>3</b>	Type of Course:	Optional
<b>4</b>	Level of Course:	First Cycle
<b>5</b>	Year of Study:	4
<b>6</b>	Semester:	7
<b>7</b>	ECTS Credits Allocated:	3.00
<b>8</b>	Theoretical (hour/week):	2.00
<b>9</b>	Practice (hour/week):	0.00
<b>10</b>	Laboratory (hour/week):	0
<b>11</b>	Prerequisites:	None
<b>12</b>	Language:	Turkish
<b>13</b>	Mode of Delivery:	Face to face
<b>14</b>	Course Coordinator:	Doç.Dr. Tolga Tipi
<b>15</b>	Course Lecturers:	
<b>16</b>	Contact information of the Course Coordinator:	ttipi@uludag.edu.tr, Tel:0 (224) 2941590 U.Ü. Ziraat Fakültesi Tarım Ekonomisi Bölümü Görükle/Bursa
<b>17</b>	Website:	
<b>18</b>	Objective of the Course:	The aim of the engineering economics course is to provide the engineering students with the knowledge of criteria used for financial evaluation of alternative options in engineering decisions and to equip them with the necessary skills for their estimation.
<b>19</b>	Contribution of the Course to Professional Development:	
<b>20</b>	Learning Outcomes:	
	<b>1</b>	In depth comprehension of basic concepts in engineering economics and their importance in engineering decisions
	<b>2</b>	Ability to carry out financial and economical evaluation of alternative engineering projects and investments through use of engineering economics criteria
	<b>3</b>	Ability to arrange economic feasibility reports for engineering projects
	<b>4</b>	Ability to contribute to efficient and productive use of production factors by applying engineering economics principles to engineering decisions
	<b>5</b>	Having an advantage for managerial positions by possessing basic engineering economics knowledge together with technical engineering background
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<b>21</b>	Course Content:	
	<b>Course Content:</b>	
Week	Theoretical	Practice

1	Introduction to engineering economics and relations with engineering decisions	
2	Time value of money and interest rates	
3	Inflation, nominal and real interest rates	
4	The return on investment, Costs, cash flow analysis	
5	Net present value analysis	
6	Break even point analysis	
7	Internal rate of return analysis Benefit/Cost analysis	
8	Course review and midterm exam	
9	Choosing among investment alternatives, decision criteria, decision process	
10	Sensitivity (risk and uncertainty) analysis	
11	Impact of inflation on decision process	
12	Replacement analysis	
13	Depreciation and taxes	
14	Feasibility practices	
22	Textbooks, References and/or Other Materials:	<p>1.Kahya, E.; Mühendislik Ekonomisi, Eskişehir Osmangazi Üniversitesi, Eskişehir, 2006.</p> <p>2.C. S. Park , Contemporary Engineering Economics, Prentice Hall, Third Edition <a href="http://www.eng.auburn.edu/~park/cee.html">http://www.eng.auburn.edu/~park/cee.html</a></p> <p>3. W. J. Fabrycky , G. J. Thuesen, Economic Decision Analysis, Prentice Hall, Second Edition</p> <p>4. E. P. Degarmo, W. G. Sullivan and J. A. Bontadelli, Engineering Economy, Macmillan Publishing Company, Eight Edition</p>
23	Assesment	
<b>TERM LEARNING ACTIVITIES</b>		<b>NUMBER</b>
		<b>WEIGHT</b>
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	1	10.00
Final Exam	1	50.00
Total	3	100.00
Contribution of Term (Year) Learning Activities to Success Grade		50.00
Contribution of Final Exam to Success Grade		50.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		
24	<b>ECTS / WORK LOAD TABLE</b>	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	1.00	14.00
Homeworks	1	15.00	15.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	15.00	15.00
Others	0	0.00	0.00
Final Exams	1	15.00	15.00
Total Work Load			87.00
Total work load/ 30 hr			2.90
ECTS Credit of the Course			3.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	0	0	3	3	4	5	5	0	4	2	2	0	0	0	0	0
ÖK2	0	0	2	3	3	5	5	0	3	0	0	0	0	0	0	0
ÖK3	0	0	0	4	4	5	5	0	0	0	0	0	0	0	0	0
ÖK4	0	0	3	3	5	4	4	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	0	0	0	0	3	5	4	0	0	0	0	0
<b>LO: Learning Objectives    PQ: Program Qualifications</b>																
<b>Contribution Level:</b>	<b>1 very low</b>		<b>2 low</b>			<b>3 Medium</b>			<b>4 High</b>			<b>5 Very High</b>				