

Course number and name	END 4902 / Industrial Engineering Design II
Credits, contact hours, categorization of credits	4 credits / 56 hours / Engineering topic
Instructor or course coordinator	Çiğdem KADAİFÇİ YANMAZ, Ayşe Elvan BAYRAKTAROĞLU
Text book and other supplemental materials	-

Course information	
Content	To provide the student with the ability to analyze the problem/system with which he/she is dealing and to develop solution ideas considering theoretical knowledge. To provide a useful experience through a self study to take the first step to his/her new career which will start after graduation. The student will communicate his/her study efficiently, verbal and written, so he/she will learn to express himself/herself better.
Prerequisites	END 4901 Industrial Engineering Design I
Type	Required

Course learning outcomes
<p>Students who pass the course will be able:</p> <ol style="list-style-type: none"> I. Formulate and analyze a problem by examining the current status. II. Develop applicable suggestions and/or solution methods for the problem dealt with, considering theoretical knowledge. III. Gain the ability to implement a solution method to an existing problem and will be able to evaluate the results. IV. Learn to express himself/herself by reporting and presenting the work. V. Learn to defend the idea that underlines the results of the study.

Student outcomes	Level of contribution
SO1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	High
SO2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	Partial
SO3. An ability to communicate effectively with a range of audiences.	Little
SO4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	Partial
SO5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	Not applicable
SO6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	High
SO7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	High

Week	Topics	Learning outcome(s)
1	Operationalization of the concepts in the model/research question, that was formulated during Industrial Engineering Design I.	I
2	Operationalization of the concepts in the model/research question, that was formulated during Industrial Engineering Design I.	I
3	Designing the instruments/tools etc. to achieve the objective / formulating solution alternatives	II
4	Designing the instruments/tools etc. to achieve the objective / formulating solution alternatives	II
5	Designing the instruments/tools etc. to achieve the objective / formulating solution alternatives	II
6	Evaluate alternatives (use the relevant background data) and choose a solution	II
7	Evaluate alternatives (use the relevant background data) and choose a solution	II
8	Implementation of the solution (optional)	III
9	Implementation of the solution (optional)	III
10	Implementation of the solution (optional)	III
11	Discussion of the results and implications (global, economic, social, environmental) of your solution	III
12	Discussion of the results and implications (global, economic, social, environmental) of your solution	III
13	Report the study and the findings	IV, V
14	Present the study and the findings	IV, V