Course number and name	END 475 / Feasibility Studies
Credits, contact hours, categorization of credits	3 credits / 42 hours / Engineering topic
Instructor or course coordinator	İrem UÇAL SARI
Text book and other supplemental materials	• Mesly, O. (2017). *Project Feasibility: Tools for Uncovering Points of Vulnerability*. CRC Press. • Herriott, S. (2014). *Feasibility analysis for sustainable technologies: an engineering-economic perspective*. Business Expert Press.

Course information	
Content	Feasibility Analysis, Market Feasibility, Technical Feasibility, Financial Feasibility, Financial Analysis, Investment Evaluation.
Prerequisites	END 312E Engineering Economics
Type	Selected elective

Course learning outcomes

Students who pass the course will be able:

I. Understand the principles of feasibility studies
II. Be able to complete a cash flow and financial forecast
III. Understand risk and be able to undertake a risk assessment
IV. Be able to provide a comprehensive funding analysis
V. Be able to determine the factors both internal and external that impact on the feasibility of a project
VI. Be able to interpret market and industry research to identify new business opportunities
VII. Be able to identify appropriate organizational structures and management structures which promote the feasibility of a project.

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.	High
SO3. An ability to communicate effectively with a range of audiences.	High
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.	High
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.	High
SO6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	Partial
SO7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	High

Week	Topics	Learning outcome(s)
1	Introduction to feasibility studies	I
2	Pre-feasibility study	I, VI
3	Market Feasibility	I, III, V, VI
4	Technical Feasibility	I, III, V, VI
5	Financial Feasibility	II, IV, V, VI
6	Financial Models used in feasibility studies: Weighted average cost of capital	II, IV
7	Financial Models used in feasibility studies: capital asset pricing model	II, IV
8	Financial Models used in feasibility studies: free cash flow	II, IV
9	Financial Analysis Parameters: Liquidity Ratios, operating ratios, financial leverage ratios	II, III, IV
10	Financial Analysis Parameters: Security ratios, profitability ratios	II, III, IV
11	Investment Appraisal Analysis: Breakeven points, payback period, net present value, profitability index.	II, III, IV
12	Feasibility Study Evaluation and Implementation	III, VI, VII
13	Case Studies of various industries	V, VI
14	Case Studies of various industries	V, VI