School of Engineering and Natural Sciences / Industrial Engineering (English)

2023 - 2024 Academic Year

CASE STUDIES in INDISTRIAL ENGINEERING

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
CASE STUDIES in INDISTRIAL ENGINEERING	IND4210795	Spring Semester	3+0	3	6

Prerequisites Courses	MÜHENDİSLİK PROJESİ I
Recommended Elective Courses	
Language of Instruction	English
Course Level	First Cycle (Bachelor's Degree)
Course Type	Elective
Course Coordinator	Assoc.Prof. Yasin GÖÇGÜN
Name of Lecturer(s)	Lect. Özgür EROL
Assistant(s)	
Aim	This course is designed to provide students to apply their theoretical industrial engineering knowledge to solve real-life business cases.
Course Content	This course contains; Future of Industrial Engineering Profession ,History of Industrial Engineering, Contribution of Taylor, Gilbreth, Maynard.,Productivity Science ,Productivity Engineering,Industrial Engineering in Product-Based Operations ,Industrial Engineering in Process-Based Operations ,Industrial Engineering Economic Analysis-1 ,Industrial Engineering Economic Analysis-2,Industrial Engineering and Operations Research,Industrial Engineering and Statistics - Six Sigma Optimization ,Industrial Engineering 4.0,Industrial Engineering in the Age of Digitalization ,Final Case Study Project Presentation,Final Case Study Project Presentations .

Course Learning Outcomes	**Teaching Methods**	**Assessment Methods**
1. Defines the value and current status of the industrial engineering profession.	10, 13, 19, 2, 4, 9	A, F
2. Compares industrial engineering theory and practice.	10, 13, 16, 19, 2, 4, 9	A, F
3. Applies industrial engineering approaches to solve real-life business problems.	10, 13, 16, 19, 2, 4, 9	A, F
4. Analyzes cases by working on case studies.	10, 13, 16, 19, 2, 4, 9	A, F

Teaching Methods	10: Discussion Method, 13: Case Study Method, 16: Question - Answer Technique, 19: Brainstorming Technique, 2: Project Based Learning Model, 4: Inquiry-Based Learning, 9: Lecture Method
Assessment Methods	A: Traditional Written Exam, F: Project Task

Lecture Schedule

Sequence	Topics	Preliminary Preparation
1	Future of Industrial Engineering Profession	Lecture Notes
2	History of Industrial Engineering, Contribution of Taylor, Gilbreth, Maynard.	Lecture Notes
3	Productivity Science	Lecture Notes
4	Productivity Engineering	Lecture Notes
5	Industrial Engineering in Product-Based Operations	Lecture Notes
6	Industrial Engineering in Process-Based Operations	Lecture Notes
7	Industrial Engineering Economic Analysis-1	Lecture Notes
8	Industrial Engineering Economic Analysis-2	Lecture Notes
9	Industrial Engineering and Operations Research	Lecture Notes
10	Industrial Engineering and Statistics - Six Sigma Optimization	Lecture Notes
11	Industrial Engineering 4.0	Lecture Notes
12	Industrial Engineering in the Age of Digitalization	Lecture Notes
13	Final Case Study Project Presentation	Lecture Notes
14	Final Case Study Project Presentations	Lecture Notes

Evaluation Methods	Weight(%)
Midterm Exam	30
General Exam	70

Resources

Textbook: Ellet, W: Case Study Handbook, William Ellet.
Course material: Course notes, slides, readings (provided by the instructor)