

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

2024 - 2025 Academic Year

ENGINEERING MANAGEMENT

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
ENGINEERING MANAGEMENT	IND4268230	Spring Semester	3+0	3	6
Prerequisites Courses	ÜRETİM PLANLAMA VE KONTROL				
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Elective				
Course Coordinator	Assoc.Prof. Melis Almula KARADAYI				
Name of Lecturer(s)	Lect. Özgür EROL, Assoc.Prof. Melis Almula KARADAYI				
Assistant(s)					
Aim	The purpose of this course is to describe general company operations and services and how they are managed using common industrial engineering, operations research, decision-making, and management science tools and techniques.				
Course Content	This course contains; Introduction to operations and engineering management,Strategy, competitiveness, and productivity,Forecasting; product and services design,Strategic capacity planning,Process selection and facility layout; work design and measurement,Location planning and analysis,Quality control and quality management,Aggregate planning and master scheduling,,MRP AND ERP,Inventory management, JIT, and lean operations,Supply chain management; scheduling,Management of waiting lines and linear programming,Final Project Presentations,Final Project Presentations.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. Analyzes the relationship between industrial engineering and operations management and how these fields contribute to increased productivity, efficiency, and effectiveness in organizations.			13, 16, 4, 9	A, E, F	
2. Analyzes the real-life examples and case studies to better understand how decision-making techniques are applied in demand forecasting, capacity planning, and the planning of resources and operations.			13, 16, 4, 9	A, E, F	
3. Analyzes real-life examples and case studies to better understand how operations research techniques are used for site planning, process selection, facility layout design, work design, and measurement.			13, 16, 4, 9	A, E, F	
4. Defines the modern approaches to quality control and quality management using current real-life examples.			13, 16, 4, 9	A, E, F	
5. Identifies the modern approaches to inventory management and enterprise resource planning solutions using case studies, .			13, 16, 4, 9	A, E, F	
6. Analyzes the real-life examples and case studies to better understand how management science techniques are used to minimize resources and maximize operational results.			13, 16, 4, 9	A, E, F	
Teaching Methods	13: Case Study Method, 16: Question - Answer Technique, 4: Inquiry-Based Learning, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, E: Homework, F: Project Task				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Introduction to operations and engineering management	Lecture Notes			
2	Strategy, competitiveness, and productivity	Lecture Notes			
3	Forecasting; product and services design	Lecture Notes			
4	Strategic capacity planning	Lecture Notes			
5	Process selection and facility layout; work design and measurement	Lecture Notes			
6	Location planning and analysis	Lecture Notes			
7	Quality control and quality management	Lecture Notes			
8	Aggregate planning and master scheduling,	Lecture Notes			
9	MRP AND ERP	Lecture Notes			
10	Inventory management, JIT, and lean operations	Lecture Notes			
11	Supply chain management; scheduling	Lecture Notes			
12	Management of waiting lines and linear programming	Lecture Notes			
13	Final Project Presentations	Project Presentations			
14	Final Project Presentations	Project Presentations			
Evaluation Methods		Weight(%)			
Midterm Exam		30			
General Exam		70			

Resources
Course Materials: Course notes, slides, readings (provided by the instructor) Textbook: Operations Management; W.J. Stevenson; 13th edition; McGrawHill