

**DEPARTMENT of INDUSTRIAL ENGINEERING
COURSE CATALOGUE FORM**



Course Code: INDE4902				Course Title: Graduation Design Project			
Semester	L + R + L	Credits	AKTS	Language	Category	Instructional Methods	Prerequisites
8	0 + 0 + 6	3	6	English	Required	Project	ENGR4901
Course Objectives			To be able to design, solve, present, and interpret real life reflections of a current engineering problem within team work environment under social, technical, and economic constraints by using industrial engineering tools.				
Course Content			Design of system and process, literature review on methodology, constructing and analyzing mathematical and statistical models. Conduct, report, and present validation, verification, simulation, and sensitivity analysis for decision support systems under constraints such as risk, quality, sustainability etc. Information about entrepreneurship, innovation, project management, sustainability and business life practices.				
Course Learning Outcomes			<p>Students, who pass the course satisfactorily:</p> <ol style="list-style-type: none"> 1. Ability to design, model, and optimize the problems related to processes and systems. [2, 3, 4] 2. Ability to follow the up to date literature and gain experience on project reporting and presentation. [7, 8] 3. Understand the importance of professional ethics while working in team. [6, 9] 4. Gain the ability to apply industrial engineering tools on real life problems with entrepreneur, innovative, and sustainable consciousness. [10, 11] <p>[Note: Numbers in brackets are indicating the related program outcomes]</p>				
ISCED Category of the course			52 Engineering				
Textbook			-				
Supplementary Material			-				

COURSE PLAN

Week	Topics	Laboratory / Tutorial Work
1	Project teams formation and topic selection	-
2	Project proposal and work flow	-
3	Literature review on proposed methods and approaches	-
4	Literature review on proposed methods and approaches	-
5	Data analytics	-
6	Problem modeling	Application on IE tools
7	Solution via proposed methods	Application on IE tools
8	Review on initial results	-
9	Progress report and presentation	-
10	Integration of feedback gathered from jury members	-
11	Final modeling and design implications	Application on IE tools
12	Final modeling and design implications	Application on IE tools
13	Validation and verification	-
14	Project report and preparation on final presentation	-

COURSE ASSESSMENT SYSTEM

	Activities	Contribution (%)
Semester Activities	Semester Written Exams	-
	Homework	-
	Reports	60
	Labs	-
	Seminars	-
	Presentations	10
	Term Project	-
	Other (attendance, field trip etc.)	30
FINAL EXAM		-
Total		100

CONTRIBUTION of the COURSE on INDUSTRIAL ENGINEERING PROGRAM OUTCOMES

	Program Outcomes	Low	High
1	Adequate knowledge in mathematics, science and subjects pertaining to Industrial Engineering; ability to use theoretical and applied knowledge in these areas in complex engineering problems.		
2	Ability to identify, formulate, and solve complex Industrial Engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.		X
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.		X
4	Ability to devise, select, and use modern techniques and tools needed for analyzing and solving problems encountered in engineering practice; ability to employ information technologies effectively.		X
5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating complex engineering problems or discipline specific research questions.		
6	Ability to work efficiently individually and in intra-disciplinary / multi-disciplinary teams.		X
7	Knowledge of Turkish and English languages; ability to communicate effectively orally, inscriptive and visually by using these languages (via business methods such as reports, presentations and instructions).		X
8	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.	X	
9	Consciousness to behave according to ethical principles and professional and ethical responsibility; knowledge on standards used in engineering practice.		X
10	Knowledge about business life practices (management activities such as project, risk, change and quality etc.); awareness in entrepreneurship, innovation; knowledge about sustainable development.		X
11	Knowledge about the global and social effects of engineering practices on health, environment, economics and safety, and contemporary issues of the century reflected into the field of engineering; awareness of the legal consequences of engineering solutions.	X	

ECTS - WORK LOAD TABLE

COURSE ACTIVITIES	Quantity	Time (hr)	Work Load (hr)
Lectures	-	-	-
Final Exam (Preparation included)	-	-	-
Semester Written Exams (Preparation included)	-	-	-
Out of class study time	14	5	70
Homework	-	-	-
Reports	1	50	50
Labs	8	5	40
Seminar	-	-	-
Presentations	2	5	10
Term Project	-	-	-
Total Load (hr)			170
ECTS Credits of the course (Total Work Load / 25)			6

Revision / Date 5/02/2020	Coordinator / Prepared By Çağlar Aksezer	Approved By Çağlar Aksezer
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