

**SYLLABUS**
**Social Sciences Institutes**

Course Code	Course Title	Credits	ECTS Value	
OSD 571	Industry 4.0 Applications	(2-1-3)	8	
<b>Prerequisite Courses:</b>	None			
<b>Course Language:</b>	Turkish	<b>Course Delivery Mode:</b>	Face-to-Face	
<b>Course Type and Level:</b>	Elective / Master's Level			
<b>Instructor's Title, Name, and Surname</b>		<b>Course Hours</b>	<b>Contact</b>	
Prof. Dr. Murat KOÇ		3	<a href="mailto:muratkoc@cag.edu.tr">muratkoc@cag.edu.tr</a>	
<b>Course Coordinator:</b>	Asst. Prof. Dr. Yonca BİR		<a href="mailto:yoncabir@cag.edu.tr">yoncabir@cag.edu.tr</a>	
<b>Course Objectives</b>				
<b>Course Learning Outcomes</b>	Upon successful completion of this course, the student will be able to;		<b>Relations</b>	
			Program Outcomes	Net Contribution
	1	Explain information and communication technologies with industrial systems.	7	5
	2	Analyze key technologies that enable Industry 4.0 applications.	3	5
3	Apply operations research methods to solve problems in Industry 4.0 environments.	3	5	
<b>Course Content:</b>	Industry 4.0, also known as industry 1.0, 2.0, 3.0 and the fourth industrial revolution, cyber-physical systems, internet of things, cloud computing systems, big data, modeling and simulation, smart factory are discussed with an integrated approach.			
<b>Course Schedule (Weekly Plan)</b>				
<b>Week</b>	<b>Topic</b>	<b>Preparation</b>	<b>Teaching Methods and Techniques</b>	
1	Introduction to the Course, Getting Acquainted and Sharing Expectations	Course syllabus; students write their expectations and prepare a short paragraph to introduce themselves	<b>Lecture, Padlet application</b>	
2	Industry 1.0	At the end of the class, students prepare a summary	<b>Lecture, In-class written reflective activity and group work</b>	
3	Industry 2.0	Preparing a briefing note on the topic before the class.	<b>Lecture, Group work</b>	
4	Industry 3.0	Preparing a briefing note on the topic before the class.	<b>Lecture, Group work, In-class scenario analysis</b>	
5	Industry 4.0	At the end of the class, students prepare a summary.	<b>Lecture, Group work, Storytelling</b>	

6	The Internet of Things and Industries	Conducting research on the topic and examining relevant examples.	<b>Lecture, Discussion, Q&amp;A session</b>
7	The Internet of Things and Logistics Activities	Before class, students find an example case	<b>Lecture, Group work, Case analysis</b>
8	Midterm Exam		
9	Elements of Quality	Prepare 3 questions on the topic and bring to class and discuss	<b>Lecture, Group work, In-class text analysis</b>
10	Strategic Deployment of Quality	Before class, prepare a short information note on the topic and present.	<b>Student Panels, Lecture, Debate</b>
11	The Relationship between Human Resources and Quality Management	Before class, students find a relevant article and bring it to class and present.	<b>Lecture, Group work, Discussion</b>
12	Quality Control Circles	Before class, find a sample case and bring to class	<b>Lecture, Group work, Case analysis</b>
13	Cyber-Physical Systems	Students find an example related to the topic before the class and share it in class.	<b>Lecture, In-class text analysis, Case study analysis</b>
14	Robotic Systems	Students find an example case before the class and bring it to class.	<b>Lecture, Q&amp;A session</b>
15	Smart Factories	Students present an example of scientific study from daily life.	<b>Lecture, In-class Group work, Case analysis</b>
16	Final Exam		

#### Course Resources

<b>Textbook:</b>	Ömer Faruk Görçün, 2020, Endüstri 4.0, Beta Publishing.
<b>Recommended References:</b>	Yavuz Selim Düger, Harika Özkan (Ed.), 2022, Endüstri 4.0 & Örgütsel Değişim: Geleceği Yönet, Gazi Publishing.

#### Course Assessment and Evaluation

Activities	Number	Percentile	Notes
<b>Midterm</b>	1	%30	Assignment
<b>Project</b>	1	%20	Research project
<b>Final</b>	1	%50	Assignment

#### ECTS Table

Content	Number	Hours	Total
Course Duration	<b>14</b>	<b>3</b>	42
Out-of-Class Study	<b>14</b>	<b>3</b>	42
Project	<b>1</b>	<b>40</b>	40
Midterm (Midterm Assignment Duration + Preparation)	<b>1</b>	<b>50</b>	50
Final (Final Assignment Duration + Preparation)	<b>1</b>	<b>55</b>	55
<b>Total:</b>			229

<b>Total / 30:</b>	229/30=7.6
<b>ECTS Credit:</b>	8