

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

**2022 - 2023 Academic Year**

**COMPUTER AIDED TECHNICAL DRAWING**

**Syllabus**

<b>Course Description</b>					
<b>Name</b>	<b>Code</b>	<b>Semester</b>	<b>T+A Hour</b>	<b>Credit</b>	<b>ECTS</b>
COMPUTER AIDED TECHNICAL DRAWING	IND1149040	Fall Semester	2+2	3	6
<b>Prerequisites Courses</b>					
<b>Recommended Elective Courses</b>					
<b>Language of Instruction</b>	English				
<b>Course Level</b>	First Cycle (Bachelor's Degree)				
<b>Course Type</b>	Required				
<b>Course Coordinator</b>	Assist.Prof. Atakan MANGIR				
<b>Name of Lecturer(s)</b>	Assist.Prof. Atakan MANGIR				
<b>Assistant(s)</b>					
<b>Aim</b>	Developing the ability to understand and preparation of technical drawings; gain thinking skills for developing drawing techniques; develop skills to use free hand and computer aided drawings.				
<b>Course Content</b>	This course contains; Basic drawing principles and introduction to technical drawing,Projection methods and principal views,Drawing principals of 2D views of a 3D object with isometric projection,Projection methods to draw three main views of objects,Linetypes used in drawing,Dimensioning methodology,Introduction to computer-aided technical drawing,Screen coordinates, cartesian, relative and polar coordinates,Drawing basic geometric shapes with Point-Line-Rectangle-Circle-Arc-Polyline-Polygon-Ellipse commands,Use of Copy-Move-Rotate commands,Use of Scale-Mirror-Offset-Trim-Extend commands,Use of Stretch-Array-Chamfer-Fillet commands,Layers, block & hatch, dimensioning,General drawing practise.				
<b>Course Learning Outcomes</b>			<b>Teaching Methods</b>	<b>Assessment Methods</b>	
Students succeeded in the course satisfactorily can:1. Understand the technical drawings in engineering,2. Establish communication via drawings in engineering,3. Explain a technical problem or situation with drawing,4. Imagine objects or engineering products in three dimensions,5. Learn basic rules and fundamentals of technical drawing,6. Draw computer-aided technical drawings.			1, 14, 2, 3, 4, 6, 8	A, C	
<b>Teaching Methods</b>	1: Lecture, 14: Self-Study, 2: Question - Answer, 3: Discussion, 4: Exercise, Practice, 6: Role Model, Making an example, 8: Teamwork				
<b>Assessment Methods</b>	A: Written Exam, C: Homework				
<b>Lecture Schedule</b>					
<b>Sequence</b>	<b>Topics</b>	<b>Preliminary Preparation</b>			
1	Basic drawing principles and introduction to technical drawing				
2	Projection methods and principal views				
3	Drawing principals of 2D views of a 3D object with isometric projection				
4	Projection methods to draw three main views of objects				
5	Linetypes used in drawing				
6	Dimensioning methodology				
7	Introduction to computer-aided technical drawing				
8	Screen coordinates, cartesian, relative and polar coordinates				
9	Drawing basic geometric shapes with Point-Line-Rectangle-Circle-Arc-Polyline-Polygon-Ellipse commands				
10	Use of Copy-Move-Rotate commands				
11	Use of Scale-Mirror-Offset-Trim-Extend commands				
12	Use of Stretch-Array-Chamfer-Fillet commands				
13	Layers, block & hatch, dimensioning				
14	General drawing practise				
<b>Evaluation Methods</b>		<b>Weight(%)</b>			
Midterm Exam		30			
General Exam		70			

<b>Resources</b>
Engineering Graphics Essentials, Kirstie Plantenberg, University of Detroit Mercy, Schroff Development Corporation Publications Engineering Graphics with Autocad 2020, James D. Bethune