

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

**2023 - 2024 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>	Assoc.Prof. Atakan MANGIR				
<b>Name of Lecturer(s)</b>	Assoc.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>	
Produce the technical drawings in engineering.			10, 14, 16, 5, 6, 8, 9	A, E	
Establish communication via drawings in engineering.			10, 14, 16, 5, 6, 8, 9	A, E	
Explain a technical problem or situation with drawing.			10, 14, 16, 5, 6, 8, 9	A, E	
Imagine objects or engineering products in three dimensions.			10, 14, 16, 5, 6, 8, 9	A, E	
Apply basic rules and fundamentals of technical drawing.			10, 14, 16, 5, 6, 8, 9	A, E	
Draw computer-aided technical drawings.			10, 14, 16, 5, 6, 8, 9	A, E	
<b>Teaching Methods</b>	10: Discussion Method, 14: Self Study Method, 16: Question - Answer Technique, 5: Cooperative Learning, 6: Experiential Learning, 8: Flipped Classroom Learning, 9: Lecture Method				
<b>Assessment Methods</b>	A: Traditional Written Exam, E: Homework				
<b>Lecture Schedule</b>					
<b>Sequence</b>	<b>Topics</b>	<b>Preliminary Preparation</b>			
1	Basic drawing principles and introduction to technical drawing	Previewing book and lecture notes			
2	Projection methods and principal views	Previewing book and lecture notes			
3	Drawing principals of 2D views of a 3D object with isometric projection	Previewing book and lecture notes			
4	Projection methods to draw three main views of objects	Previewing book and lecture notes			
5	Linetypes used in drawing	Previewing book and lecture notes			
6	Dimensioning methodology	Previewing book and lecture notes			
7	Introduction to computer-aided technical drawing	Previewing book and lecture notes			
8	Screen coordinates, cartesian, relative and polar coordinates	Previewing book and lecture notes			
9	Drawing basic geometric shapes with Point-Line-Rectangle-Circle-Arc-Polyline-Polygon-Ellipse commands	Previewing book and lecture notes			
10	Use of Copy-Move-Rotate commands	Previewing book and lecture notes			
11	Use of Scale-Mirror-Offset-Trim-Extend commands	Previewing book and lecture notes			
12	Use of Stretch-Array-Chamfer-Fillet commands	Previewing book and lecture notes			
13	Layers, block & hatch, dimensioning	Previewing book and lecture notes			
14	General drawing practise	Previewing book and lecture notes			
<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