

DEPARTMENT OF MECHANICAL ENGINEERING
COURSE SYLLABUS

Course Details				
Code		Academic Year		Semester
EBT105		1		Fall
Title		T	A	L
Technical Drawing and Computer Aided Design		2	0	4
ECTS		6		
Language	German			
Level	Undergraduate	✓	Graduate	Postgraduate
Department / Program	Energy Science and Technologies			
Forms of Teaching and Learning	Formal			
Course Type	Compulsory	✓	Elective	
Objectives	Knowledge in the field of technical drawing. Understanding of dimensions, standards, tolerances of components. Independent familiarization with modeling using 3D CAD systems			
Content	Lecture: <ul style="list-style-type: none"> • Fundamentals of technical drawing as a means of information for construction and manufacturing • Create lines, circles, hatching, dimensions and text. • Information about drawing formats, scale lines and drawing head • Representation and dimensioning of components • Representation of parts using view sand sections • Use of tolerance information and fits • Information about surface marks and hardness information • Standard series • Introduction to standards Exercises: <ul style="list-style-type: none"> • Creation of a construction drawing by hand from given standard parts taking into account boundary and connection conditions • Modeling with a CAD system Laboratory: <ul style="list-style-type: none"> • Elaboration of a simple construction with all necessary drawings 			
Prerequisites	-			
Coordinator	Assist. Prof. Dr. Mehmet İPEKOĞLU			
Lecturer(s)	Prof. Dr. Hulusi BOZKURT			
Assistant(s)	Fuat Berke GÜL			
Work Placement				
Recommended or Required Reading				
Books / Lecture Notes	Frey, H. Herrmann, A. Kuhn, V. (1996). Bautechnik Technisches Zeichnen, Deutschland.			
Other Sources				
Additional Course Material				

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Documents	-		
Assignments	-		
Exams	-		
Course Composition			
Mathematics und Basic Sciences			%
Engineering			%
Engineering Design	50		%
Social Sciences			%
Educational Sciences			%
Natural Sciences			%
Health Sciences			%
Expert Knowledge	50		%
Assessment			
Activity	Count		Percentage (%)
Midterm Exam	1		40
Quiz			
Assignments			
Attendance			
Recitations			
Projects			
Final Exam	1		60
		Total	100
ECTS Points and Work Load			
Activity	Count	Duration	Work Load (Hours)
Lectures	14	1	14
Self-Study	14	3	42
Assignments			
Presentation / Seminar Preparation			
Midterm Exam	1	1	12
Recitations	14	2	28
Laboratory	14	1	14
Projects			
Final Exam	1	2	15
		Total Work Load	125
	ECTS Points (Total Work Load / Hours)		6

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Learning Outcomes

1	Fundamentals of technical drawing as a means of information for construction and manufacturing
2	Representation and dimensioning of components
3	Introduction to three-dimensional computer-aided design
4	Procedure and methodical procedure for creating simple components
5	Application of engineering approaches and basic knowledge of work techniques to create simple designs
6	Use of tolerance information and fits
7	Technical Drawing Basics as Information Source of Design and Manufacturing
8	Ability to create and interpret technical drawings for simple designs.
9	Independent creation of a construction drawing according to given boundary conditions

Weekly Content

1	Fundamentals of technical drawing as a means of information for construction and manufacturing
2	Fundamentals of technical drawing as a means of information for construction and manufacturing
3	Representation and dimensioning of components
4	Representation and dimensioning of components
5	Introduction to Design Hierarchy and Design Methodology in Production Process (Construction Process and Production Modularization)
6	Introduction to Design Hierarchy and Design Methodology in Production Process (Construction Process and Production Modularization)
7	Introduction to Standard / Norm Information
8	Introduction to Standard / Norm Information
9	Midterm Exam
10	Use of tolerance information and fits
11	Use of tolerance information and fits
12	Creating Manual Technical Drawings of the Given Elements Considering Boundary and Connection Conditions
13	Elaborating the Design with All Necessary Drawings
14	Modeling with 3D Computer Aided Design
15	Modeling with 3D Computer Aided Design

Contribution of Learning Outcomes to Program Objectives (1-5)

	P1	P2	P3	P4	P5	P6	P7
1	5	4	4				
2	5	4	4				
3	5	4	4				
4	5	4	4				
5	5	4	4				



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Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High
<u>Program Learning Outcomes</u>	
Compiled by:	Fuat Berke GÜL
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