

COURSE DESCRIPTION	
Course code and title	Computer Aided Technical Drawing II
Course Semester	2
Course Content	Size, shape and position tolerances, screws, bolts, studs, nuts, washers, wedges, pins, pins, springs, welded connections, bearings, gear wheels ... etc. Technical drawings of machine parts such as assembly drawings and Autocad applications.
Recommended or Required Reading	Giesecke, Frederick E., et. al., Technical Drawing with Engineering Graphics (14th Edition), Prentice-Hall, 2010.
Recommended or Required Reading	Şen, İ.Z., Özçilingir, N., Makina Resmi, Deha Yayıncılık.
Credits of Course (ECTS)	3
Prerequisites	Lectures must be attended by students
Type of Course	Basic Science Education
Language of Instruction	English
Purpose and Object of the Course	Drawing of machine parts, which is the main subject in mechanical engineering, according to technical drawing standards. Drawing assembly pictures by combining these parts. Developing the student's technical drawing skills by making AutoCAD drawing applications.
Learning Outcomes Of The Course Unit	<ol style="list-style-type: none"> 1. Knows and applies the meaning of dimensional tolerances. 2. Have basic knowledge about geometric (shape and position) tolerances and applies them. 3. Gains basic knowledge about surface quality and applies surface treatment signs. 4. Have knowledge about bolt-screw, stud, nut, washer, wedge, pin-pin, spring, gear wheel etc. and apply them in assembly drawings. 5. Knows the weld seam symbols and applies them in welded joint drawings. 6. With sliding and rolling element bearings, circlip, safety plate-nut, sleeve, seal, grease nip. Knows the auxiliary elements and applies them. 7. Knows assembly and part making drawing rules and applies them. 8. Knows the standard machine elements and drawing tools in the CAD program and uses them to accelerate the mechanical CAD drawings.
Planned Learning Activities and Teaching Methods	Face to face
Course Per Week	<ol style="list-style-type: none"> 1. Week: Dimensional tolerances and exercises. AutoCAD Mechanical applications. 2. Week : Shape and position tolerances. AutoCAD Mechanical applications. 3. Week : Surface quality. AutoCAD Mechanical applications. 4. Week: Screwed Elements: Bolts-screws, studs, nuts and washers. 5. Week : Screw Elements: Bolts-screws, studs, nuts and washers. Assembly drawings with screw fasteners in AutoCAD Mechanical. 6. Week : Wedges, pins-pernos and springs. AutoCAD Mechanical applications. 7. Week : Wedges, pins-pernos and springs. AutoCAD Mechanical applications. 8. Week : Midterm exam, Welded joints, weld seam symbols. AutoCAD Mechanical applications. 9. Week: Bearings with sliding and rolling elements; circlip, safety plate-nut, sleeve, seal, grease nipple etc. workers. AutoCAD Mechanical applications. 10. Week: Gear wheels: straight, helical, conical, worm and gear, rack gear. AutoCAD Mechanical applications. 11. Week: Assembly and parts making pictures. AutoCAD Mechanical applications. 12. Week: Assembly and parts making drawings. AutoCAD Mechanical applications. 13. Week: Assembly and parts making pictures. AutoCAD Mechanical applications.

	14. Week: Introduction to design geometry: Supplementary views and expansions. 15. Week: Final								
Workload	Theoretical Study Hours of Course Per Week: 2 hours Practising Hours of Course Per Week: 1 hour Reading: 1 hours Searching in Internet and Library: 1 hours Designing and Applying Materials: 3 hours Preparing Reports: 0 Preparing Presentation: 0 Presentation: 0 Mid-Term and Studying for Mid-Term: 7 hours Final and Studying for Final: 8 hours								
Assessment Methods And Criteria		Number	Total contribution (%)		1				
	Mid-terms	1	30						
	Assignment	9	20						
	Exercise	5	10						
	Projects	0							
	Practice	0							
	Quiz	0							
	Contribution of In-term Studies to Overall Grade (%)								
	Contribution of Final Examination to Overall Grade (%)		60						
Attendance		0							
Efficiency	Activities	Total number of weeks	Time (Weekly)	Total efficiency at the end of the semester					
	Theoretical Study Hours of Course Per Week	14	4	56					
	Practicing Hours of Course Per Week	14	1	14					
	Reading	14	1	14					
	Searching in Internet and Library	14	1	14					
	Designing and Materials, Applying	0	0	0					
	Preparing Reports	0	0	0					
	Preparing Presentation	0	0	0					
	Presentation	0	0	0					
	Mid-Term and Studying for Mid-Term	1	7	7					
	Final and Studying for Final	1	8	8					
	Other								
	TOTAL WORKLOAD			152					
	TOTAL WORKLOAD/ 25			6.08					
ECTS of Course			6						
Course's Contribution To Program	No	PROGRAM LEARNING OUTCOMES			1	2	3	4	5
	1	Adequate knowledge of subjects specific to mathematics, natural sciences and related engineering disciplines; ability to use theoretical and applied knowledge related to these areas in complex engineering problems.						x	

	2	Ability to identify, define, formulate, and solve complex engineering problems; ability to select and apply appropriate analysis and modeling methods to this end.						
	3	Ability to design a complex system, process, device or product under realistic constraints and conditions to meet specific requirements; ability to apply modern design methods for this purpose.		x				
	4	Ability to develop, select and use modern techniques and tools required for the analysis and solution of complex problems encountered in engineering practice; ability to use information technologies effectively.						
	5	Ability to design and conduct experiments, collect data, analyze and interpret results to investigate complex engineering problems or discipline-specific research topics		x				
	6	Ability to work effectively in disciplinary and multi-disciplinary teams; ability to work individually.						
	7	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of at least one foreign language; the ability to write effective reports and understand written reports, to prepare design and production reports, to deliver effective presentations, to give and receive clear and understandable instructions.						
	8	Awareness of the necessity of lifelong learning; the ability to access information, to follow developments in science and technology, and to renew oneself constantly.						
	9	Acting in accordance with ethical principles, professional and ethical responsibility; information about standards used in engineering applications.						
	10	Information about business life practices such as project management, risk management and change management; awareness of entrepreneurship, innovation; information about sustainable development.						
	11	Knowledge about the universal and social effects of engineering applications on health, environment and safety and the problems of the age reflected in the engineering field; awareness of the legal consequences of engineering solutions.						
Name of Lecturer(s) and E-mail(s) of Lecturer(s)	1. Dr.Öğr.Üyesi Nihat GEMALMAYAN, nihategem@gazi.edu.tr 2. Öğr.Gör.Dr. Yavuz ZÜMRÜT, yzumrut@gazi.edu.tr 3. Dr. Mehmet Akif AKDOĞAN, maakdogan@gazi.edu.tr							