



ECTS COURSE INFORMATION FORM

Faculty	Faculty of Engineering	
Program	B.Sc. in Electrical-Electronics Engineering	Elective
	B.Sc. in Industrial Engineering	Elective
	B.Sc. in Computer Engineering	Elective
	B.Sc. in Mechanical Engineering	Required
	B.Sc. in Civil Engineering	Required

Course Code	CAD 102			
Course Title in English	Computer Aided Technical Drawing			
Course Title in Turkish	Bilgisayar Destekli Teknik Resim			
Language of Instruction	English			
Type of Course	Flipped Classroom/Lecture/Exercise			
Level of Course	Undergraduate			
Course Category (by % of Content)	Basic Science	Basic Engineering	Engineering Design	General Education
	-	100	-	-
Semester Offered	Spring			
Contact Hours per Week	Lecture: 2 hours	Recitation: 2 hours	Lab:-	Other:-
Estimated Student Workload	113 hours			
Number of Credits	5 ECTS			
Grading Mode	Standard Letter Grade			
Pre-requisites	None			
Expected Prior Knowledge	None			
Co-requisites	None			
Registration Restrictions	Only Undergraduate Students			
Overall Educational Objective	To learn the principles of drawing, sectioning and projection together with assembly modeling and drawing.			
Course Description	This course introduces the principles of technical drawing using AutoCAD. Topics covered include: Introduction to computer aided technical drawing and AutoCAD, AutoCAD basics and basic drawing and editing skills, understanding layers and object's properties within AutoCAD, projection methods and views, dimensioning, fits and allowances and surface textures, sections, geometric dimensioning and tolerancing, standard parts and assembly drawings.			
Course Description in Turkish	Bu ders öğrencilere Bilgisayar Destekli Teknik Resmin ilkelerini AutoCAD kullanarak göstermektedir. Kapsanan konular: Bilgisayar destekli teknik resime giriş ve AutoCAD, AutoCAD' in temel çizim ve düzenleme komutları, AutoCAD' de katman kullanımı ve nesne özellikleri, izdüşüm yöntemleri ve görünüşler, ölçülendirme, geçmeler ve yüzey kalite gösterimleri, kesit görünüşler, geometrik toleranslar, standard parçalar ve montaj resimleri.			
Course Learning Outcomes and Competencies	Upon successful completion of the course, the learner is expected to: 1. draw technical views of a given part; 2. construct 3D body whose technical views are given; 3. create annotative objects (dimensions, tolerances, section, surface textures etc.); 4. make disciplinary drawings; 5. create technical drawing of an object, draft a project and present it.			

Relationship of the Course with the Student Outcomes	Level	Learning Outcome(s)	Assessed by
Student Outcomes	N=None S=Supportive H=High		Exam, Project, HW, Experiment, Presentation, etc.
(1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	H	1, 2, 3, 4	Assignments, Exam, Project
(2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors			
(3) an ability to communicate effectively with a range of audiences			
(4) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts			
(5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives			
(6) an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions			
(7) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	S	5	Project
Prepared by and Date	Dr. Hüseyin Can Ünen / January 2020		
Semester	Spring 2019-2020		
Name of Instructors	Dr. Seyed Ehsan Layegh Khavidaki and Dr. Hüseyin Can Ünen		
Course Contents	Week	Topic	
	1.	Introduction to computer aided technical drawing and AutoCAD	
	2.	AutoCAD basics and basic drawing and editing skills	
	3.	Understanding layers and object's properties within AutoCAD	
	4.	Projection methods and views	
	5.	Creating views	
	6.	Creating views	
	7.	Creating views	
	8.	Dimensioning	
	9.	Cross Sections	
	10.	Cross Sections (mid-term week)	
	11.	3D Drawing	
	12.	3D Drawing	
	13.	Term Project	
	14.	Term Project	
	15.	Final Exam/Project/Presentation period	
	16.	Final Exam/Project/Presentation period	
Required/Recommended Readings	"Modern Graphics Communication", 4th Edition, by Frederick E. Giesecke, Alva Mitchell, Henry Cecil Spencer, Ivan Leroy Hill, John Thomas Dygdon, James E. Novak, Shawna Lockhart from Prentice Hall, 2010, ISBN-13:978-0-13-800356-2.		
Teaching Methods	Lectures/contact hours using "flipped classroom" as an active learning technique/Project		
Homework and Projects	There will be weekly homework and a final project		

Laboratory Work	-																		
Computer Use	AutoCAD 2019																		
Other Activities	-																		
Assessment Methods	<table border="1"> <thead> <tr> <th>Type of Assessments</th> <th>Number</th> <th>Ratio (%)</th> </tr> </thead> <tbody> <tr> <td>Midterm Exam</td> <td>1</td> <td>34</td> </tr> <tr> <td>Active learning (In-class assignments- Digital platform) (In-class participation)</td> <td>12</td> <td>36</td> </tr> <tr> <td>Project</td> <td>14</td> <td>10</td> </tr> <tr> <td></td> <td>1</td> <td>20</td> </tr> <tr> <td>Total</td> <td></td> <td>100</td> </tr> </tbody> </table>	Type of Assessments	Number	Ratio (%)	Midterm Exam	1	34	Active learning (In-class assignments- Digital platform) (In-class participation)	12	36	Project	14	10		1	20	Total		100
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Course Administration	<p>Instructor's Office hours: Wednesday: 12:00-13:00</p> <p>Instructor's Email address: unenc@mef.edu.tr</p> <p>Rules for attendance: Classroom practice contributes to 10% of the final grade.</p> <p>Missing a quiz: Provided that proper documents of excuse are presented, each missed quiz by the student will be given a grade by taking the average of all of the other quizzes. No make-up will be given.</p> <p>Missing a midterm: Provided that proper documents of excuse are presented, each missed midterm by the student will be given the grade of the final exam. No make-up will be given.</p> <p>Missing a final: Faculty regulations.</p> <p>A reminder of proper classroom behavior, code of student conduct: YÖK Regulations</p> <p>Statement on plagiarism: YÖK Regulations http://www.mef.edu.tr/icerikler/files/lisans_onlisans_yonetmelik%20(1.pdf)</p>																		

ECTS Student Workload Estimation	Activity	No/Weeks	Hours			Calculation	Explanation
		No/Weeks per Semester (A)	Preparing for the Activity (B)	Spent in the Activity Itself (C)	Completing the Activity Requirements (D)		
	Lecture	14		2		28	A*(B+C+D)
	Midterm(s)	1	15	2		17	A*(B+C+D)
	Assignment(s)	12	1	1	1	36	A*(B+C+D)
	Final Project	1	30	2		32	A*(B+C+D)
	Total Workload					113	
	Total Workload/25					4,52	
	ECTS					5	