

MM 305E Mechanisms				DEPARTMENT of MECHANICAL ENGINEERING					
Semester	Methods of Education							Credits	
	Lecture	Recit.	Lab.	Project/Field Study	Homework	Other	Total	Credit	ECTS Credit
5	42	-	-	-	43	40	125	3	4.0
Language	English								
Compulsory / Elective	Compulsory								
Prerequisites	None								
Course Contents	Introduction to mechanisms; examples, basic concepts, degrees of freedom, const								
Course Objectives	To introduce the basic concepts in mechanisms, to familiarize with the basic mechanism types and explain basic graphical and analytical methods used in kinematic anaysis of mechanisms.								
Learning Outcomes and Competences	Learning the methods used for the kinematic analysis of mechanisms and linear mechanical systems. Learning the basics of cam mechanisms.								
Textbook and /or Reference	1. Mechanisms, E. Söylemez, METU publication No:64 1999 Ankara. 2. Mechanism Design, A.G Erdman.,G.N. Sandor, Prentice Hall 1997. 3. Theory of machines and Mechanism, J.E. Shigley and J.J. Uicker, Mc-Graw Hill Comp., England.								
Assessment Criteria						If any, mark as (x)		Percentage (%)	
	Midterm Exams					X		60	
	Quizzes								
	Homeworks								
	Projects								
	Term Paper								
	Laboratory Work								
	Other								
	Final Exam					X		40	
Instructors	Prof. Nizami AKTÜRK, Assoc.Prof. Sefaattin YUKSEL, Assist.Prof. Tuncay KARACAY								
Week	Subject								
1	Introduction to mechanisms: Basic concepts, joints and link types.								
2	Introduction to mechanisms: Degrees of freedom, Grubler's Equation, classification of mechanisms.								
3	Position analysis: Graphical methods.								
4	Position analysis: Loop closure equations.								
5	Velocity analysis: Graphical and analytical methods.								
6	Velocity analysis: Graphical and analytical methods.								
7	Velocity analysis: Instantaneous centers.								
8	Acceleration analysis: Graphical and analytical methods								
9	Acceleration analysis: Graphical and analytical methods								
10	Acceleration analysis: Graphical and analytical methods								
11	Position, velocity and acceleration analysis by means of complex numbers.								
12	Simple and Phanetary Gear trains.								
13	Simple and Phanetary Gear trains.								
14	Introduction to cam mechanisms.								