

MM 470 Die Design				DEPARTMENT of MECHANICAL ENGINEERING					
Semester	Methods of Education							Credits	
	Lecture	Recit.	Lab.	Project / Field Study	Homework	Other	Total	Credit	ECTS Credit
8	42	0	-			33	75	3	3.0
Language	English								
Compulsory / Elective	Elective								
Prerequisites	None								
Course Contents	Press, die and workpiece terminology. Cutting, piercing, bending and drawing dies. Die components and materials. Loading unloading devices. Strip and die design. Die making and operation.								
Course Objectives	Understanding of basic principles of mass production press tool design and manufacture								
Learning Outcomes and Competences	To gain knowledge about plastic working of metals and alloys, sheet metal working, basic die elements, piercing-blanking dies, plastic and metal pressure casting dies, and die materials								
Textbook and /or Reference	1) F.W. Wilson, Fundamentals of Tool Design, SME, Prentice Hall, A.B.D. 2) Turan Güneş, Pres İşleri Tekniği, Makine Mühendisleri Odası, Ankara								
Assessment Criteria						If any, mark as (x)		Percentage (%)	
	Midterm Exams					X		40	
	Quizzes								
	Homeworks					X		20	
	Projects								
	Term Paper								
	Laboratory Work								
	Other								
	Final Exam					X		40	
Instructors	Assist.Prof. Nihat GEMALMAYAN								
Week	Subject								
1	Principals of metal working, plastic deformation, sheet metal working								
2	Principals of metal working, plastic deformation, sheet metal working								
3	Forging, wire drawing, extrusion								
4	Forging, wire drawing, extrusion								
5	Basic die elements; die sets, guide pins, punches, dies, other elements								
6	Basic die elements; die sets, guide pins, punches, dies, other elements								
7	Basic die elements; die sets, guide pins, punches, dies, other elements								
8	Design of piercing-blanking dies; combined dies, progressive dies								
9	Design of piercing-blanking dies; combined dies, progressive dies								
10	Design of piercing-blanking dies; combined dies, progressive dies								
11	Plastics and metal pressure casting dies, other dies								
12	Plastics and metal pressure casting dies, other dies								
13	Die materials and their heat treatments								
14	Die materials and their heat treatments								