

DEPARTMENT OF MECHATRONIC ENGINEERING COURSE SYLLABUS

Course Details										
Code	Acad	emic Ye	ear	Semester						
MAB301	3			Fall						
Title	Т	Α	L	ECTS						
Machine Tools	2	1	2	6						
Language	German									
Level	Undergraduate	1	Graduate		Postgraduate					
Department / Program	Mechanical Engineering									
Forms of Teaching and Learning	Formal	Formal								
Course Type	Compulsory			Ele	ctive		1			
Objectives	To provide inform and economical m the drive system a the machine tools functions of machi	To provide information about the machine tools industry. To determine the most suitable and economical machine tool selection criteria according to machining processes. To design the drive system and mechanisms depending on the machine structure. To be able to choose the machine tools and related equipments for the processing quality. To understand the functions of machine tools and to know their usage proces								
Content	Classification of machine tools. Drive systems and construction of machine tools, design principles of machine tools, turning machines, drilling machines, milling machines, planing machines, grinding machines, cutting machines, broaching machines, gear wheels and very fine processing machines. General principles of numerically controlled machine tools. Precision in machine tools.									
Prerequisites	-									
Coordinator	Assist. Prof. Dr. Me	ehmet İPEKOĞ	iLU							
Lecturer(s)	Prof. Dr. Konstan	itinos-Dionys	ios BOUZAKI	S						
Assistant(s)	-									
Work Placement	-									
Recommended or Required R	eading									
Books / Lecture Notes	-									
Other Sources	-									
Additional Course Material										
Documents	-									
Assignments	-									
Exams	-									
Course Composition										
Mathematics und Basic Sciences		20					%			
Engineering	60 %									



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Engineering Design	20	%
Social Sciences		%
Educational Sciences		%
Natural Sciences		%
Health Sciences		%
Expert Knowledge		%
Assessment		
Activity	Count	Percentage (%)
Midterm Exam	1	30
Quiz		
Assignments		
Attendance		
Recitations		
Projects	1	30
Final Exam	1	40

ECTS Points and Work Load										
Activity	Count	Duration	Work Load (Hours)							
Lectures	14	3	42							
Self-Study	14	4	56							
Assignments	1	18	18							
Presentation / Seminar Preparation										
Midterm Exam	1									
Recitations	14	2	28							
Laboratory										
Projects	1	24	24							
Final Exam	1									
		Total Work Load	168							
	ECTS Poin	ts (Total Work Load / Hours)	6							
Learning Outcomes										

1	To have knowledge about the design-production-use of machine tools.
2	To have knowledge about lathe, milling, saw, drill, broaching, grinding, gear wheel and very fine processing machines.
3	To gain the ability to choose the most suitable machine for machining.
4	To have knowledge about the construction of machine tools and main drive mechanisms.
5	To have knowledge about the construction elements of machine tools.



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	7											
	8											
9	9											
1	LO											
1	11											
1	12											
Weekl	Weekly Content											
:	1	Machine	tools - De	efinitions,	basic cor	ncepts an	d classific	ations				
	2	Construc	tive struc	ture and	compone	nts of bei	nches					
:	3	Drive sys	tems use	d in mach	ine tools							
	4	Mechani	sms used	in machir	ne tools							
	5	Working	principle	s and med	chanisms	of lathes						
	6	Function	s, operati	ng princip	ples and r	nechanisı	ms of drill	ling mach	ines			
	7	Function	s, operati	ng princip	ples and n	nechanisı	ms of mill	ing mach	ines			
	8	Midterm	Exam									
	9	Functions, operating principles and mechanisms of grinding machines and ultrafine machining										
1	LO	Functions, working principles and mechanisms of brooch looms and shaper looms										
1	11	Function	Functions, operating principles and mechanisms of gear machines									
1	12	Function	s, workin	gprinciple	es and me	echanism	s of sawir	ng machin	es			
1	13	Numerica	ally contro	olled mac	hine tool	s - Genera	al principl	es				
1	L4	Precision	and Test	s in Mach	ine Tools							
1	15	Final										
Contril	bution of	Learning	Outcome	s to Prog	ram Obje	ctives (1	-5)					
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
1	5	5	5	5	5	3	4	4	5	4	5	
2	5	5	5	5	5	3	4	4	5	4	5	
3	5	4	5	5	4	5	5	5	5	5	5	
4	5	5	4	5	5	4	5	5	5	5	5	
5	5	5	5	5	5	5	5	4	4	4	4	
6												
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0												
10												
10												



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Contribution Level 1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High											
https://obs.tau.edu.tr/oibs/bologna/progLearnOutcomes.aspx?lang=en&curSunit=196											
Compile	Compiled by: Assist. Prof. Dr. Mehmet İPEKOĞLU										
Date of	Compilatio	on:	19.05.	2021							