

MACHINE TOOLS

1	Course Title:	MACHINE TOOLS
2	Course Code:	END2024
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	2
6	Semester:	4
7	ECTS Credits Allocated:	2.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Öğr. Gör. CİHAT ENSARİOĞLU
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	cemal@uludag.edu.tr 0224 2941958 U.U. Müh-Mim Fak. Makine Müh. Böl. BURSA
17	Website:	
18	Objective of the Course:	To provide technical and practical information about the Machine Tools used in metal cutting
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	Explain the principles of metal cutting.
	2	Understand the systematic classification of machine tools.
	3	Describe the mechanical components of machine tools used in various metal cutting operations.
	4	Calculate the cutting force components and cutting power of various machine tools.
	5	Recognise the dynamics of various machine tools, determine the cutting parameters that effect the metal cutting and calculate machining time for each operation.
	6	Select the cutting tools used in various metal cutting operations.
	7	Understand the determination of optimum cutting parameters according to minimum production cost or minimum production time criteria.
	8	Describe the cutting tool – workpiece – machining parameters – tool geometry relations for various machine tools.
	9	
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	General classification of machine tools	

2	Lathes, turning applications	
3	Effects of tool geometry into turning operations	
4	Copying machines, Copy turning, profile turning	
5	Internal turning operations	
6	Drilling, reaming, counterboring operations, drilling machines	
7	Problems & solutions about turning and drilling operations	
8	Repeating courses and midterm exam	
9	Parting and grooving operations	
10	Economics of machining	
11	Milling machines, face milling operations	
12	Peripheral milling operations	
13	Problems & solutions about milling operations	
14	Grinding machines, grinding operations	
22	Textbooks, References and/or Other Materials:	<p>Prof. Dr. M. Cemal ÇAKIR, Modern Talaşlı İmalat yöntemleri, Vipaş, 2001</p> <p>Modern Metal Cutting, Toftersa Tryckeri, AB, 1994</p> <p>Machine Tool And Manufacturing Technology, S. Krar, S.F.Krar, M. Rapisarda, 1997</p>
23	Assesment	
TERM LEARNING ACTIVITIES		NUMBE R
Midterm Exam		1
Quiz		0
Home work-project		1
Final Exam		1
Total		3
Contribution of Term (Year) Learning Activities to Success Grade		50.00
Contribution of Final Exam to Success Grade		50.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		
24	ECTS / WORK LOAD TABLE	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	4	5.00	20.00
Homeworks	1	20.00	20.00
Projects	0	0.00	0.00
Field Studies	4	2.00	8.00
Midterm exams	1	2.00	2.00
Others	3	3.00	9.00
Final Exams	1	4.00	4.00
Total Work Load			91.00
Total work load/ 30 hr			3.03
ECTS Credit of the Course			2.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	0	3	4	3	0	0	2	0	0	0	0	0	0	0	0	0
ÖK2	0	3	0	3	4	0	1	0	0	0	0	0	0	0	0	0
ÖK3	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	5	5	0	0	4	0	0	0	0	0	0	0	0	0	0	0
ÖK5	5	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0
ÖK6	0	3	4	2	5	0	0	0	0	0	0	0	0	0	0	0
ÖK7	5	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK8	0	3	5	0	4	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low		2 low		3 Medium		4 High		5 Very High							