

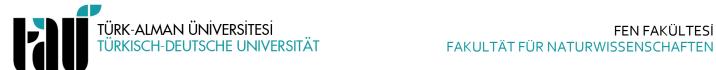
Course Details									
Code				Acad	Academic Year			Semester	
MWT302				3	3		6		
Title					Α	L	ECTS		
Materials Production and Process	sing Technologies			2 2 1 6					
Language	German								
Level	Undergraduate	Х	Graduate		Postgraduate				
Department / Program	Materials Science	and Technolo	gy						
Forms of Teaching and Learning	Face to face								
Course Type	Compulsory		X	Ele	Elective				
Objectives	The student gets an initial insight into the techniques of raw material extraction and the subsequent processing techniques for the production of materials and components by melt or powder metallurgy. This includes a treatment of relevant theoretical foundations. The student succeeds in drawing parallels between processing and the properties of materials. He / she acquires a first qualification to select material-specific processing routes for the design and manufacture of components. In addition, he / she will receive an advanced level of competence in the selection and application of appropriate coating and joining techniques. Accompanying the mentioned topics, the topics of resource conservation and recycling are brought closer to the student.						nents by melt idations. The of materials. outes for the dvanced level and joining ervation and		
Content	Component design based on material properties, raw material extraction and processing, casting processes, sintering technology, coating and thin-film processes, forming processes, recycling and resource efficiency.								
Prerequisites									
Coordinator									
Lecturer(s)	Instructor Dr. Çağatay Elibol								
Assistant(s)									
Work Placement	No								
Recommended or Required R	eading								
Books / Lecture Notes	Materials for Engine	eering, J. W. I	Martin. The Ins	stitute of N	∕lateria	als, Lond	don		
Other Sources	Springer, 2010 E. Hornbogen, W. D. Callister, 8th Edition, Wile Manufacturing Materials Scien The Production	G. Eggeler, E Jr., Material ey, 2010 g with Materi nce and Engin n of Inorganio	Eggeler, E. Werner, Werkstoffe, 9. Auflage, Springer, 2008, Materials Science and Engineering, International Student Version, 2010 ith Materials, Edwards, Endean, Butterworth and Engineering, R. W. Cahn et al. VCH-Verlag f Inorganic Materials, J. W. Evans, L. C. DeJonghe, Mc Millan ineering, J. W. Martin. The Institute of Materials, London					8 nt Version,	



Additional Course Material	COURSEST	LEADOS			
Additional Course Material					
Documents					
Assignments					
Exams					
Course Composition					
Mathematics und Basic Sciences			10%		
Engineering			70%		
Engineering Design			%		
Social Sciences			%		
Educational Sciences			%		
Natural Sciences			%		
Health Sciences			%		
Expert Knowledge			10%		
Assessment					
Activity	Cou	Percentage (%)			
Midterm Exam			40		
Quiz					
Assignments					
Attendance					
Recitations					
Projects					
Final Exam		60			
		100			
ECTS Points and Work Load					
Activity	Count	Duration	Work Load (Hours)		
Lectures	14	3	42		
Self-Study	14	7	98		
Assignments	6	3	18		
Presentation / Seminar Preparation					
Midterm Exam	1	3	3		
Recitations					
Laboratory					
Projects	3	6	18		
Final Exam	1	3	3		
		Total Work Load	182		



			ECTS Poin	its (Total Work	Load / Hours)			
Learning Outcomes								
1	Component de	esign based on n	naterial properti	es				
2	Raw material e	extraction and p	rocessing					
3	Casting Proces	S						
4	Sintering Tech	nology						
5	Coating and th	in-film process						
6	Forming Opera	ations						
7	Joining Method	d						
8	Recycling and i	resource efficier	псу					
9								
10								
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Weekly Conten	t							
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Contribution of Learning Outcomes to Program Objectives (1-5)								
1	P1	P2	Р3	P4 2	P5	P6	P7	
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Contribution Level 1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High							
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Date of Compilation:							