

DEPARTMENT OF MATERIALS SCIENCE AND TECHNOLOGY
COURSE SYLLABUS

Course Details				
Code	Academic Year			Semester
MWT103	1			1
Title	T	A	L	ECTS
Introduction to Materials Science	2	0	0	2
Language	German			
Level	Undergraduate	X	Graduate	Postgraduate
Department / Program	Materials Science and Technology			
Forms of Teaching and Learning	Face-to-face			
Course Type	Compulsory	X	Elective	
Objectives	The aim of this course is to provide students with fundamental knowledge in the subjects of materials science, material properties, material characterization, and production methods.			
Content	Within the scope of the course, Historical development of materials science, fundamentals of materials science, material classes, materials production and characterization, current problems and future in materials science are discussed.			
Prerequisites	-			
Coordinator	-			
Lecturer(s)	Department Professors			
Assistant(s)	Research Assistants			
Work Placement	-			
Recommended or Required Reading				
Books / Lecture Notes	Materials Science and Engineering: An Introduction 10E, William D. Callister Jr., David G. Rethwisch			
Other Sources	Presentations			
Additional Course Material				
Documents				
Assignments				
Exams				
Course Composition				
Mathematics und Basic Sciences				%
Engineering	50			%
Engineering Design				%
Social Sciences				%

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Educational Sciences		%
Natural Sciences	50	%
Health Sciences		%
Expert Knowledge		%

Assessment

Activity	Count	Percentage (%)
Midterm Exam	1	30
Quiz		
Assignments	1	30
Attendance		
Recitations		
Projects		
Final Exam	1	40
Total		100

ECTS Points and Work Load

Activity	Count	Duration	Work Load (Hours)
Lectures	13	2	26
Self-Study	13	2	26
Assignments			
Presentation / Seminar Preparation	1	4	4
Midterm Exam	1	2	2
Recitations			
Laboratory			
Projects			
Final Exam	1	2	2
Total Work Load			60
ECTS Points (Total Work Load / Hours)			2

Learning Outcomes

1	Learning the historical development of Materials Science
2	To have basic knowledge about current problems and issues related to Materials Science in Turkey and in the world
3	To have knowledge about the basic topics and concepts of Materials Science
4	To have knowledge about material characterization and material production methods
5	
6	
7	

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8	
9	
10	
11	
12	

Weekly Content

1	Historical development of Materials Science
2	Introducing the fields and concepts of Materials Science, Classification of Materials
3	Metals
4	Metals
5	Ceramics
6	Ceramics
7	Polymers
8	Midterm
9	Polymers
10	Composite Materials
11	Composite Materials
12	Introduction to production methods
13	Fundamentals of Material Characterization
14	Current state of materials science and future opportunities
15	Final Exam

Contribution of Learning Outcomes to Program Objectives (1-5)

	P1	P2	P3	P4	P5	P6	P7	P8
1	3	3	5	5	5	2	5	2
2	4	5	5	5	5	5	4	3
3	5	5	5	5	5	5	4	2
4	5	5	5	5	5	5	4	5
5								
6								
7								
8								
9								
10								
11								
12								

Contribution Level

1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High



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<https://obs.tau.edu.tr/oibs/bologna/progLearnOutcomes.aspx?lang=en&curSunit=207>

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