

Course Details									
Code					Academic Year			Semester	
NWI107					1			1	
Title					Т	Α	L	ECTS	
Introduction to Natural Science	ces		2	0	0	2			
Language	German								
Level	Undergraduate	х	Graduate		Postgraduate			е	
Department / Program	Materials Science and	d Technology	′						
Forms of Teaching and Learning	Face to face								
Course Type	Compulsory X Electiv				e				
Objectives	The student will have and energy sciences.	a first overv	iew of the fi	eld of materials sci	ence,	molecul	ar biot	echnology	
Content	Material Science_ Basic terms and topics: Introduction to the "world of materials", crystals: structure and properties, structure, properties and applications of metallic materials, structure, properties and applications of oxidic materials, materials of electrical engineering and microelectronics, material applications in mechanical engineering, optical properties of new materials plastics. Molecular Biotechnology_Basic Concepts and Topics Energy Science_Basic Concepts and Topics								
Prerequisites									
Coordinator	None	None							
Lecturer(s)	Asist Prof.Dr. Duygu Ekinci Associate Prof.Dr. Can Murat Ünal								
Assistant(s)	None								
Work Placement	No								
Recommended or Require	d Reading								
Books / Lecture Notes	W. D. Callister & D. G. Rethwisch: Material science and materials engineering: An Introduction, Wiley-VCH Energy K. Heinloth Teubner 1983 Handouts								
Other Sources									
Additional Course Materia	ıl								
Documents									
Assignments									
Exams									
Course Composition									



Mathematics u Sciences	und Basic		20%		
Engineering			10%		
Engineering De	esign			%	
Social Sciences	5			%	
Educational Sc	iences			%	
Natural Science	es		60%		
Health Science	es		%		
Expert Knowle	10%				
Assessment					
Activ	/ity	Co	ount	Percentage (%)	
Midterm Exam	1		1	50	
Quiz					
Assignments					
Attendance					
Recitations					
Projects					
Final Exam	Final Exam 1				
			Total	100	
FOTO D	1,000				
ECTS Points a	ind Work Loa	d			
Activ		d Count	Duration	Work Load (Hours)	
			Duration	Work Load (Hours)	
Activ		Count			
Activ Lectures		Count 14	2	28	
Activ Lectures Self-Study	vity	Count 14	2	28	
Active Lectures Self-Study Assignments Presentation /	vity Seminar	14 14	2 2	28 28	
Active Lectures Self-Study Assignments Presentation / Preparation	vity Seminar	14 14 14	2 2	28 28 2	
Active Lectures Self-Study Assignments Presentation / Preparation Midterm Exam	vity Seminar	14 14 14	2 2	28 28 2	
Active Lectures Self-Study Assignments Presentation / Preparation Midterm Exam Recitations	vity Seminar	14 14 14	2 2	28 28 2	
Active Lectures Self-Study Assignments Presentation / Preparation Midterm Exam Recitations Laboratory	vity Seminar	14 14 14	2 2	28 28 2	
Active Lectures Self-Study Assignments Presentation / Preparation Midterm Exam Recitations Laboratory Projects	vity Seminar	14 14 14 1	2 2 2	28 28 2 2	
Active Lectures Self-Study Assignments Presentation / Preparation Midterm Exam Recitations Laboratory Projects	vity Seminar	14 14 11 1 1 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	28 28 2 2	
Active Lectures Self-Study Assignments Presentation / Preparation Midterm Exam Recitations Laboratory Projects	/ity	14 14 11 1 1 1	2 2 2 2 Total Work Load	28 28 2 2 2 2 62	
Active Lectures Self-Study Assignments Presentation / Preparation Midterm Exam Recitations Laboratory Projects Final Exam	Seminar Comes	Count 14 14 1 1 1 1 1	2 2 2 2 Total Work Load	28 22 2 2 62 2	
Active Lectures Self-Study Assignments Presentation / Preparation Midterm Exam Recitations Laboratory Projects Final Exam	Comes The student sciences.	Count 14 14 1 1 1 1 1	2 2 2 2 7 2 Total Work Load TS Points (Total Work Load / Hours) d of materials science, molecular bic	28 22 2 2 62 2	



4												
5												
6												
7												
8												
9												
10												
11												
12												
Weekly Con	tent											
1	The World	l of Materials										
2	Classificat	ion of Material	s, Material Pro	perties and Ap	plications I (N	letals)						
3	Classificat	ion of Material	s, Material Pro	perties and Ap	plications I (P	olymers)						
4	Classificat	ion of Material	s, Material Pro	perties and Ap	plications I (C	eramics)						
5	Classificat	ion of Material	s, Material Pro	perties and Ap	plications I (C	omposites)						
6	Molecular	Biotechnology	- Concepts I									
7	Molecular	Biotechnology	- Concepts II									
8	Molecular	Biotechnology	- Concepts an	d Applications	I							
9	Molecular	Biotechnology	- Concepts an	d Applications	II							
10	Molecular	Biotechnology	- Concepts an	d Applications	III							
11	Energy Sci	ence - Concept	s I									
12	Energy Sci	ence - Concept	s II									
13	Energy Sci	Energy Science - Concepts and Applications I										
14	Energy Sci	Energy Science - Concepts and Applications II										
15	15											
Contribution	bution of Learning Outcomes to Program Objectives (1-5)											
	P1	P2	Р3	P4	P5	P6	P7	P8				
1	4	3	3	3	3	3	3	2				
2												
3												
4												
5 6												
7												
8												



9								
10								
11								
12								
Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High							
Compiled by:								
Date of Compilation:								