

SOLID MATERIALS PROPERTIES I

1	Course Title:	SOLID MATERIALS PROPERTIES I
2	Course Code:	KRM5129
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. Mürsel Alper
15	Course Lecturers:	Doç. Dr. Mürşide Hacısmailoğlu
16	Contact information of the Course Coordinator:	Prof. Dr. Mürsel ALPER, malper@uludag.edu.tr Fen-Ede. Fak., Fizik Bölümü, Oda No: 041
17	Website:	
18	Objective of the Course:	To study structural,dynamic, mehchanical, electrical, optical and magnetic properties of solids
19	Contribution of the Course to Professional Development:	Leraning production, designing of materials used common in Daily-life and investigate their properties. Improving production and designing the materials with the desired properties.
20	Learning Outcomes:	
	1	Learning classificaiton of solids according to the physical properties
	2	Learning structural properties and calculations them
	3	Learning Dynamic properties and relations between dynamic and structural properties.
	4	Learning mechanical properties.
	5	learning relations between Dynamic, mechanic and structural properties
	6	Learning thermal properties and their calculations.
	7	Learning electrical properties and their calculations
	8	Learning magnetic properties and their calculations
	9	
	10	
21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Classifacation of solids according their properties.	
2	Structural properties	
3	determination and calculation of structural properties.	
4	Dynamical and mechanical properties.	

5	Vibrational motions in solids, classically and quantum	
6	Relations between structural and mechanical properties.	
7	Thermal properties.	
8	Thermal capacity models, capacity calculations	
9	Electrical properties	
10	Parameters affecting electrical properties	
11	Classical and quantum calculation of electrical properties.	
12	Magnetic properties, magnetic materials and applications	
13	Relations between electrical and magnetic properties	
14	Applications of solids according to use-area.	

22	Textbooks, References and/or Other Materials:	
23	Assesment	

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	0	0.00
Quiz	0	0.00

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical Contribution of Term (Year) Learning Activities to	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self-study and Preparation to Success Grade	10	6.00	72.00
Homeworks	10	4.00	40.00
Projects	4	6.00	24.00
Measurement and Evaluation Techniques Used in the	The system of relative evaluation is applied		
Field Studies	0	0.00	0.00

24. ECTS / WORK LOAD TABLE			
Midterm Exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	2.00	2.00
Total Work Load			180.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

[illegible]

ÖK5	3	4	5	0	0	4	0	0	0	0	0	0	0	0	0	0
ÖK6	2	4	3	3	3	2	0	0	0	0	0	0	0	0	0	0
ÖK7	4	2	3	4	2	4	0	0	0	0	0	0	0	0	0	0
ÖK8	0	0	0	0	0	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			