PROPERTIES OF SOLID MATTEIALS I

1	Course Title:	PROPERTIES OF SOLID MATTEIALS I
2	Course Code:	FZK6304
3	Type of Course:	Optional
4	Level of Course:	Third Cycle
5	Year of Study:	1
6	Semester:	2
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:	Doç. Dr. MÜRŞİDE ŞAFAK HACIİSMAİLOĞLU
15	Course Lecturers:	Dr. Öğr. Üyesi M. Cüneyt HACIİSMAİLOĞLU
16	Contact information of the Course Coordinator:	Doç. Dr. Mürşide HACIİSMAİLOĞLU msafak@uludag.edu.tr, (0224) 2941697, Fen Edebiyat Fakültesi, Fizik Bölümü 16059 Görükle Kampüsü Bursa
17	Website:	
18	Objective of the Course:	To study dieltric, Fermi yüzeyleri, superconductivity properties of solid and alloys.
19	Contribution of the Course to Professional Development:	Learning dielectric,Fermi surfaces, superconductivity properties of solids and alloys. Learning Phase diagrams and their interpretions.
20	Learning Outcomes:	

	1	Learning band suructure, formation and Fermi surfaces
	2	Learning dielectrical solids and applicaitons
	3	Learning optical and dielectrical properties and relating between them
	4	Learning superconductin properties of solids and applications
	5	Learning alloys and their properties, applications and phase diagrams of alloy solids.
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21	Course Content:	

Course Content:	

Week	Theoretical	Practice
1	Band theory of solids	
2	Bant formation and structure and properties	
3	Electron behaviour in solids	
4	Fermi surfaces of solids	
5	Fermi surface calculation	

6	Dielectrical properties	
7	Dielectrical and optical properties and relations between them	
8	particle-light interaction in solid	
9	Superconducting properties	
10	Superconductor types and usage areas	
11	Alloys and properties.	
12	Alloy formation conditions	
13	Phase diagram of alloys	
14	Applications of püre solids and alloys.	

22	Textbooks, References and/or Other Materials:	1. Mürsel Alper, Ders Notları 2. J. M. Zımans, Principles of Theory of Solids, Cambridge University Pres, Cambridge U.K. (1972). 3. J. Crangle, The Magnetic Properties of Solids, Edward Arnold Publisher Limited, London (1977).
23	Assesment	

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	10	30.00
Final Exam	1	70.00

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Contribution of Final Exam to Success Grade	70.00		
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	6.00	84.00
Homeworks	10	5.00	50.00
Projects	0	0.00	0.00
24 ECTS / WORK LOAD TABLE			
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	2.00	2.00
Total Work Load			178.00
Total work load/ 30 hr			5.93
ECTS Credit of the Course			6.00

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	5	4	3	3	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	4	4	3	1	3	0	0	0	0	0	0	0	0	0	0	0
ÖK3	4	4	3	3	4	0	0	0	0	0	0	0	0	0	0	0
ÖK4	5	4	3	3	2	0	0	0	0	0	0	0	0	0	0	0

ÖK5	4	4	3	4	5	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