INTRODUCTION TO SOLID STATE PHYSICS LABORATORY

1	Course Title:	INTRODUCTION TO SOLID STATE PHYSICS LABORATORY
2	Course Code:	FZK3056
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	3
6	Semester:	6
7	ECTS Credits Allocated:	1.00
8	Theoretical (hour/week):	0.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	2
11	Prerequisites:	-
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Dr. Ögr. Üyesi MUHAMMED CÜNEYT HACIİSMAİLOĞLU
15	Course Lecturers:	Doç. Dr. Mürşide HACIİSMAİLOĞLU
16	Contact information of the Course Coordinator:	Dr. Öğr. Üy. M. Cüneyt Hacıısmailoğlu mcuneyt@uludag.edu.tr
17	Website:	
18	Objective of the Course:	Performing experimental characterization of solid materials' properties, critically evaluating and interpreting experimental data. Assessing the correspondence between theoretical frameworks and empirical results, including systematic analysis of potential deviations.
19	Contribution of the Course to Professional Development:	Establishes practical abilities in experimental measurement techniques and error identification. Develops systematic approaches for interpreting experimental data with uncertainty analysis and professional report preparation.
20	Learning Outcomes:	
		1	Gains experience on the experimental measurements
		2	Learns to evaluate and interpret experimental results.
		3	Learns crystal structures and diffraction phenomena.
		4	Learns semiconductor and optoelectronic devices and their operating principles.
		5	Establishes theoretical framework for essential solid-state physics phenomena.
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21	Course Content:	

Course Content:		
Week	Theoretical	Practice
1		The creation and introduction of the laboratory of experimental groups

2		Preliminary experiments to give information about, Error accounts presentation and disclosure of examples, Figure Drawing
3		Geometry of two and three dimensional Crystals
4		Diffraction in Crystals
5		Optoelectronic
6		Magnetic Induction Coeffcient.
7		Thermoelectrical Couple
8		Demonstration Experiments
9		Capacitance of a diode
10		The power losses in Fiber optical Cables
11		Strain-Gauge Transducer Characteristics
12		Hall Effect
13		Repetitaion
14		Demonstration Experiments

22	Textbooks, References and/or Other Materials:	1. Experimental Booklet 2. M. ALPER, Katıhal Fiziği Ders Notları 3. Bekir Karaoğlu, Katıhal Fiziğine Giriş (Çeviri), Güven Yayınevi, 1996, İstanbul

Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	R	0	0.00	0.00
Midterm Exam	2	40.00		
Practicals/Labs		14	2.00	28.00
Quiz	0	0.00		
Self study and preperation		0	0.00	0.00
Homeworks		0	0.00	0.00
Final Exam	1	60.00		
Projects		0	0.00	0.00
Total	3	100.00		
Field Studies		0	0.00	0.00
Contribution of Term (Year) Learning Activities to Success Grade	40.00			
Midterm exams		2	1.00	2.00
Others		0	0.00	0.00
Contribution of Final Exam to Success Grade	60.00			
Final Exams		1	1.00	1.00
Total	100.00			
Total Work Load				33.00
Measurement and Evaluation Techniques Used in the Course	Measurement and evaluation is carried out according to the priciples of Bursa Uludag University Associate and			
Total work load/ 30 hr				1.03
ECTS Credit of the Course				1.00

24	ECTS / WORK LOAD TABLE

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

ÖK5	4	3	3	5	0	4	0	0	0	0	0	0	0	0	0	0

LO: Learning Objectives   PQ: Program Qualifications

Contrib ution Level:	1 very low	2 low	3 Medium	4 High	5 Very High