ADVANCED SOLID STATE II

1	Course Title:	ADVANCED SOLID STATE II	
2	Course Code:	FZK5304	
3	Type of Course:	Optional	
4	Level of Course:	Second 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:	Prof.Dr.Dr. Naim Derebaşı	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	naim@uludag.edu.tr, 0 224 29 41 1692, UÜ Fen Edebiyat Fakültesi, Fizik Bölümü 16059 Görükle Kampüsü Bursa	
17	Website:	-	
18	Objective of the Course:	To inform students about solid state physics in advance level and support the M.Sc. studies.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Learn spin waves and polarisation
		2	Learn ionic crystal vibrations and Landau model
		3	Learn piezoelectric and Bloch theorem
		4	Learn electron, neutron and magnetic radiation in solids
		5	Learn Fermi levels and density of state
		6	Learn two-dimensional electron gas and quantum Hall effect
		7	
		8	
		9	
		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Spin waves	
2	Polarisation	
3	Ionic crystal vibrations	
4	Landau model	
5	Piezoelectric	
6	Bloch theorem	
7	Radiation in solids	

8	Electron, neutron and magnetic radiation	
9	Fermi levels	
10	Density of state	
11	Two-dimensional electron gas	
12	Quantum Hall effect	
13	General repeat and problem solution	
14	Problem solution	

22	Textbooks, References and/or Other Materials:	1) Introduction to Solid State Physics, C. Kittel, 1986, John Wiley & Sons Inc. ISBN: 0-471-87474-4 2) Katıhal Fiziği, I.R.Hook, H.E.Hall, 1991, John Wiley & Sons Ltd.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	100.00
Total	1	100.00
Contribution of Term (Year) Learning Activities to Success Grade		0.00

24. ECTS / WORK LOAD TABLE

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical			
Measurement and Evaluation Techniques Used in the	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	3.00	42.00
Homeworks	10	4.00	40.00
Projects	10	5.00	50.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	14	5.00	70.00
Final Exams	1	2.00	2.00
Total Work Load			246.00
Total work load/ 30 hr			8.20
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	5	5	4	5	5	5	5	4	4	5	0	0	0	0
ÖK2	3	5	5	5	4	4	4	3	5	5	4	5	0	0	0	0
ÖK3	5	4	4	5	5	5	4	4	5	5	4	5	0	0	0	0
ÖK4	5	5	5	3	5	5	3	4	3	4	4	5	0	0	0	0

ÖK5	5	5	5	3	5	5	3	4	3	4	5	5	0	0	0	0
ÖK6	5	5	5	4	5	4	4	5	5	5	5	4	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**