



Çanakkale Onsekiz Mart University

Education Information System

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Course Information

COURSE INFORMATION

Course Title	Code	Semester	L+U Hour	Credits	ECTS
Advanced Solid State Physics II	FZ-6006		3 + 0	3.0	7.5

Prerequisites	None
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Language of Instruction	Turkish
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Course Level	Third Cycle
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Course Type	Elective
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Mode of delivery	Face to face
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Course Coordinator	Assoc. Prof. Dr. Kıvanç SEL
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Instructors	Prof. Dr. Serhat ÖZDER Assoc. Prof. Dr. Vildan BİLGİN Assoc. Prof. Dr. Kıvanç SEL
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Assistants	
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Course Objectives	Phonons, superconductivity, dielectrics and ferroelectrics, diamagnetism, ferromagnetism and paramagnetism, magnetic resonance
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Course Content	Phonons, Superconductivity, Dielectrics and ferroelectrics, Diamagnetism, Ferromagnetism, Paramagnetism, Magnetic resonance
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Course Learning Outcomes	1) Apply the basic scientific knowledge 2) Define the structural properties of the solid materials 3) Analyze the energy band structure of the solid materials. 4) Identify the natural phenomena 5) Identify superconductivity, diamagnetism, ferromagnetism, paramagnetism 6) Associate the obtained information with technology and industry.
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Quick Access

Physics (PhD)

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Course Information

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WEEKLY COURSE CONTENT

Week	Topics	Teaching and Learning Methods and Techniques	Study Materials
1. Week	phonons	Lecture and recitation	
2. Week	Phonons	Lecture and recitation	
3. Week	Superconductivity	Lecture and recitation	
4. Week	Superconductivity	Lecture, recitation and homework	

5. Week	Dielectrics and ferroelectrics	Lecture and recitation	
6. Week	Dielectrics and ferroelectrics	Lecture and recitation	
7. Week	Diamagnetism	Lecture and recitation	
8. Week	Midterm-exam	Written exam	
9. Week	Diamagnetism	Lecture and recitation	
10. Week	Ferromagnetism	Lecture and recitation	
11. Week	Ferromagnetism	Lecture and recitation	
12. Week	Paramagnetism	Lecture and recitation	
13. Week	Paramagnetism	Lecture, recitation and homework	
14. Week	Magnetic resonance	Lecture and recitation	
15. Week	Magnetic resonance	Lecture and recitation	
16. Week	Final exam	Written exam	

RESOURCES

Recommended Sources
'Introduction to Solid State Physics', Kittel Charles, John Wiley & Sons, Inc., 047141526X (ISBN-13: 978-0471415268), 2004
'Kathal Fiziğine Giriş', Karaoğlu, B. İstanbul, Güven Kitap Yayın Dağıtım, 1996, 9750203305
'Kathal Fiziğine Giriş', Tahsin N. Durlu, Bilim Yayıncılık, 1996, 9755560009

ASSESSMENT

Measurement and Evaluation Methods and Techniques
Written exam, homework and presentations. (60% Final, 30% midterm, 10% homework and presentation)

COURSE CATEGORY

Course Category	Percentage
Core Courses	% 100

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES

Programme Outcomes	Contribution Level	DK1	DK2	DK3	DK4	DK5	DK6
<u>PY1</u>	3	3	3	3	3	3	3
<u>PY2</u>	4	4	4	4	4	4	4
<u>PY3</u>	3	3	3	3	3	3	3
<u>PY4</u>	5	5	5	5	5	5	5
<u>PY5</u>	2	2	2	2	2	2	2
<u>PY6</u>	4	4	4	4	4	4	4
<u>PY7</u>	2	2	2	2	2	2	2
<u>PY8</u>	4	4	4	4	4	4	4

<u>PY9</u>	4	4	4	4	4	4	4
<u>PY10</u>	1	1	1	1	1	1	1
<u>PY11</u>	3	3	3	3	3	3	3
<u>PY12</u>	3	3	3	3	3	3	3
<u>PY13</u>	3	3	3	3	3	3	3
<u>PY14</u>	3	3	3	3	3	3	3
<u>PY15</u>	3	3	3	3	3	3	3

*DK = Course's Contribution.

	0	1	2	3	4	5
Level of contribution	None	Very Low	Low	Fair	High	Very High

ECTS CREDITS AND COURSE WORKLOAD

Event	Quantity	Duration (Hour)	Total Workload (Hour)
Class Hours (14 weeks)	16	3	48
Final Exam Preparation	1	34.2	34.2
Assignment 1	1	15	15
Final Exam	1	2	2
Mid Term Exam Preparation	1	33	33
Further Study	14	3	42
Mid Term Exam 1	1	2	2
Assignment 2	1	15	15
Total Workload			191.2
Total Workload / 25.5 (s)			7.50
ECTS Credit of the Course			8