



Çanakkale Onsekiz Mart University

Education Information System

DEGREE PROGRAMMES

BOLOGNA

THE INSTITUTION

INFO FOR STUDENTS

You are here : [Home](#) [Bachelor's Degree \(First Cycle\)](#) [Physics](#) [Physics for 21 St Century](#) **Course Information**

Course Information

COURSE INFORMATION

Course Title	Code	Semester	L+U Hour	Credits	ECTS
Physics for 21 St Century	FİZ302	6. Semester	3 + 0	3.0	7.0

Prerequisites	None
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Language of Instruction	English
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Course Level	Bachelor's Degree (First 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	Assoc. Prof. Dr. Kıvanç SEL
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Assistants	
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Course Objectives	The aim of this course is to help students learn the problems that are expected to be solved by physics in 21. century.
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Course Content	Introduction, Basics building blocks of matter, Fundamental interactions, Fundamental interactions, Gravity, Gravity, String theory and extra dimensions, Midterm Exam, The quantum world, The quantum world, Macroscopic quantum mechanics, Modulation of light, Biophysics, Dark matter, Dark energy., Final Exam
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Course Learning Outcomes	<ol style="list-style-type: none"> 1) Apply the basic science knowledge. 2) Describe the natural phenomena. 3) Relate the obtained information with technology and industry. 4) Identify the problems that must be solved in future 5) Relate the fundamental physics lectures and the problems. 6) Describe the research fields of physics.
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WEEKLY COURSE CONTENT

Week	Topics	Teaching and Learning Methods and Techniques	Study Materials
1. Week	Introduction	Lecture and recitation	
2. Week	Basics building blocks of matter,	Lecture and recitation	
3. Week	Fundamental interactions	Lecture and recitation	
4. Week	Fundamental interactions	Lecture, recitation and homework	

Quick Access

Physics

- Qualification Awarded
- Level of Qualification
- Qualification Requirements and Regulations
- Specific Admission Requirements
- Recognition of Prior Learning
- Profile of the Program
- Program Key Learning Outcomes
- Occupational Profile of Graduates
- Access to Further Studies
- Course Structure & Credits
- Exam Regulations & Assessment & Grading
- Graduation Requirements
- Mode of Study
- Programme Director(or Equivalent)
- Evaluation Questionnaire
- TYYÇ

Course Information

- Course Information
- Weekly Course Content
- Resources
- Course Category
- CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES
- ECTS credits and course workload

5. Week	Gravity	Lecture and recitation	
6. Week	Gravity	Lecture and recitation	
7. Week	String theory and extra dimensions	Lecture and recitation	
8. Week	Midterm Exam	Written exam	
9. Week	The quantum world	Lecture and recitation	
10. Week	The quantum world	Lecture and recitation	
11. Week	Macroscopic quantum mechanics	Lecture and recitation	
12. Week	Modulation of light	Lecture and recitation	
13. Week	Biophysics	Lecture, recitation and homework	
14. Week	Dark matter	Lecture and recitation	
15. Week	Dark energy.	Lecture and recitation	
16. Week	Final Exam	Written exam	

RESOURCES

Recommended Sources
Selected papers
'The New Physics: For the Twenty-First Century', Cambridge University Pres, Gordon Fraser, 0521140021 (ISBN-13: 978-0521140027), 2009
'Applied Physics in the 21st Century', Raymond P. Valencia, Nova Science Pub Inc, 1608762890 (ISBN-13: 978-1608762897), 2010,

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	% 70
Support Courses	% 30

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES

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

<u>PY7</u>	3	3	3	3	3	3	3
<u>PY8</u>	2	2	2	2	2	2	2
<u>PY9</u>	4	4	4	4	4	4	4
<u>PY10</u>	3	3	3	3	3	3	3
<u>PY11</u>	3	3	3	3	3	3	3
<u>PY12</u>	4	4	4	4	4	4	4
<u>PY13</u>	4	4	4	4	4	4	4
<u>PY14</u>	4	4	4	4	4	4	4
<u>PY15</u>	5	5	5	5	5	5	5

*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)	14	3	42
Final Exam Preparation	1	28	28
Mid Term Exam Preparation	1	27	27
Further Study	14	3	42
Assignment 1	1	18	18
Final Exam	1	2	2
Mid Term Exam 1	1	2	2
Assignment 2	1	18	18
Total Workload			179
Total Workload / 25.5 (s)			7.02
ECTS Credit of the Course			7