



Çanakkale Onsekiz Mart University

Education Information System

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Course Information

COURSE INFORMATION

Course Title	Code	Semester	L+U Hour	Credits	ECTS
Spectroscopy	FZ5055		3 + 0	3.0	7.5

Prerequisites	None
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Language of Instruction	Turkish
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Course Level	Second 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. Faruk SOYDUGAN
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Instructors	Assoc. Prof. Dr. Faruk SOYDUGAN Assoc. Prof. Dr. Esin SOYDUGAN Prof. Dr. Osman DEMİRCAN Prof. Dr. Ahmet ERDEM Prof. Dr. Caner ÇİÇEK
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Assistants	
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Course Objectives	In the lecture, it is aimed to learn the structure of atomic and molecular spectra, line formation, structure of the spectrographs, spectra of stars and other celestial objects.
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Course Content	Lecture topics to be covered in the lecture will include structure of atom and molecular spectra, spectral line formation, effects of electric and magnetic fields to the structure of the atom and its spectra, stellar spectra and its formation.
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Course Learning Outcomes	1) Interpret the spectrum that created the mechanism and explains concerned physical laws 2) Explain the knowing spectrograph's basic structure how to used that its together telescopes. 3) Explain formation stellar spectra and various forms of stellar spectra. 4) Interpret the spectra of different celestial objects apart from the stars.
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Quick Access

Physics (Master)

- 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
- Assessment
- Course Category
- CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES
- ECTS credits and course workload

WEEKLY COURSE CONTENT

Week	Topics	Teaching and Learning Methods and Techniques	Study Materials
1. Week	Structure and spectrum of hydrogen, helium ve complex atoms		
2. Week	Atomic transition probabilities		
3. Week	Molecular structure and spectra		
4. Week	Structure of the spectrographs		

5. Week	Forming stellar spectra		
6. Week	Spectral classification of the stellar spectra and differences		
7. Week	Spectral line structure of stars and brodening mechanisms		
8. Week	Midterm exam		
9. Week	Investigating stellar spectra taking from the public archieves		
10. Week	Analysis of the stellar spectra and related stellar parameters		
11. Week	Applications about stellar spectra		
12. Week	Spectra of nebulae and galaxies		
13. Week	Spectra of the accretion disks and stellar winds		
14. Week	Discussing recent topics and papers about the astronomical spectra		
15. Week	General applications		
16. Week	Final exam		

RESOURCES

Recommended Sources
Optical Astronomical Spectroscopy, Kitchin, C.R., IOP Publishing, 1995.
Astronomical Spectroscopy, Tennyson, J., Imperial College Press, 2005
Stellar Photospheres, Gray, D.F., Cambridge Press, 2005

ASSESSMENT

Measurement and Evaluation Methods and Techniques		
Midterm exam (40 percent) + Final exam (60 percent)		
In-Term Studies	Quantity	Percentage
Mid Term Exam 1	1	40
Total	1	40
End-Term Studies	Quantity	Percentage
Final Exam	1	60
Total	1	60
Contribution Of In-Term Studies To Overall Grade		40
End-Term Studies		60
Total		100

COURSE CATEGORY

Course Category	Percentage
Core Courses	% 20

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES

Programme Outcomes	Contribution Level	DK1	DK2	DK3	DK4
<u>PY1</u>	5	5	5	5	5
<u>PY2</u>	5	5	5	5	5
<u>PY3</u>	5	5	5	5	5

<u>PY4</u>	5	5	5	5	5
<u>PY5</u>	4	4	4	4	4
<u>PY6</u>	5	5	5	5	5
<u>PY7</u>	5	5	5	5	5
<u>PY8</u>	5	5	5	5	5
<u>PY9</u>	5	5	5	5	5
<u>PY10</u>	3	3	3	3	3
<u>PY11</u>	3	3	3	3	3
<u>PY12</u>	4	4	4	4	4
<u>PY13</u>	4	4	4	4	4
<u>PY14</u>	4	4	4	4	4
<u>PY15</u>	4	4	4	4	4

*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)
Final Exam	1	3	3
Class Hours (14 weeks)	14	3	42
Final Exam Preparation	7	5	35
Mid Term Exam Preparation	3	10	30
Further Study	4	5	20
Preliminary Study	6	4	24
Mid Term Exam 1	1	3	3
Assignment 1	4	5	20
Application/Practice	5	3	15
Total Workload			192
Total Workload / 25.5 (s)			7.53
ECTS Credit of the Course			8