



Çanakkale Onsekiz Mart University

Education Information System

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Course Information

COURSE INFORMATION

Course Title	Code	Semester	L+U Hour	Credits	ECTS
Interstellar Medium	FZ5051		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	Prof. Dr. Osman DEMİRKAN Prof. Dr. Ahmet ERDEM Prof. Dr. Caner ÇİÇEK Assoc. Prof. Dr. Esin SOYDUGAN Assoc. Prof. Dr. Faruk SOYDUGAN
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Assistants	
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Course Objectives	It is aimed to transfer interstellar medium (ISM) and its content, light and ISM interaction, nebulae and their structures, and star formation processes to the attended students.
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Course Content	In the lecture content, there are following main subjects: the structure and content of the ISM, the properties of nebulae, heating and cooling of nebulae, HI and HII regions, giant molecular clouds, supernova remnants and star formation.
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Course Learning Outcomes	1) Understand the properties of the ISM. 2) Investigate results of the light and ISM interactions. 3) Interpret different type of nebulae and their properties. 4) Understand the importance of reddening in ISM 5) Have knowledge about giant molecular clouds and star formation.
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Quick Access

Physics (Master)

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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	Structure and content of the ISM	Lecture	
2. Week	Reddening in the ISM	Lecture and practice	
3. Week	Nebulae and their properties	Lecture	
4. Week	Heating and cooling processes of nebulae	Lecture	

5. Week	HI regions and their distribution	Lecture, discussion	
6. Week	HII regions and their properties	Lecture	
7. Week	Shock waves	Lecture, Discussion	
8. Week	Midterm exam	Exam	
9. Week	Supernova remnants	Lecture, Homework, Discussion	
10. Week	Molecular spectra	Lecture, practice	
11. Week	Giaant molecular clouds	Lecture, Discussion	
12. Week	Star formation - I	Lecture, Homework, Discussion	
13. Week	Star Formation - II	Lecture, practice	
14. Week	Dust in the ISM	Lecture, Homework	
15. Week	Paper discussions about the ISM	Lecture, practice, discussion	
16. Week	Final exam	Exam	

RESOURCES

Recommended Sources
The Interstellar Medium, by James Lequeux, E. Falgarone and C. Ryter , Springer, 2004
Physics of the Interstellar and Intergalactic Medium, Bruce T. Draine, Princeton University Press, 2010

ASSESSMENT

Measurement and Evaluation Methods and Techniques
Mid-term exam (40 percent) and final exam (60 percent).

COURSE CATEGORY

Course Category	Percentage
Core Courses	% 40

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES

Programme Outcomes	Contribution Level	DK1	DK2	DK3	DK4	DK5
<u>PY1</u>	5	5	5	5	5	5
<u>PY2</u>	5	5	5	5	5	5
<u>PY3</u>	3	3	3	3	3	3
<u>PY4</u>	5	5	5	5	5	5
<u>PY5</u>	4	4	4	4	4	4
<u>PY6</u>	5	5	5	5	5	5
<u>PY7</u>	4	4	4	4	4	4
<u>PY8</u>	5	5	5	5	5	5
<u>PY9</u>	4	4	4	4	4	4
<u>PY10</u>	2	2	2	2	2	2
<u>PY11</u>	4	4	4	4	4	4

<u>PY12</u>	3	3	3	3	3	3
<u>PY13</u>	3	3	3	3	3	3
<u>PY14</u>	4	4	4	4	4	4
<u>PY15</u>	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)
Final Exam	1	3	3
Class Hours (14 weeks)	14	3	42
Further Study	14	3	42
Mid Term Exam Preparation	1	35	35
Final Exam Preparation	1	39	39
Mid Term Exam 1	1	3	3
Preliminary Study	14	2	28
Total Workload			192
Total Workload / 25.5 (s)			7.53
ECTS Credit of the Course			8