Course Information

COURSE INFORMATION

Course Title	Code	Semester	L+U Hour	Credits	ECTS
Introduction to Plasma Physics	FZK415	7. Semester	3 + 0	3.0	7.0

Prerequisites	None

Language of Instruction	Turkish
Course Level	Bacheclor's Degree (First Cycle)
Course Type	Elective
Mode of delivery	Face to face
Course Coordinator	Assoc. Prof. Dr. Hüseyin ÇAVUŞ
Instructors	Assoc. Prof. Dr. Hüseyin ÇAVUŞ
Assistants	
Course Objectives	This course aims to introduce Basic Parameters and Basic Equations of Plasma Physics, and also to provide a knownledge about their usages and applications.
Course Content	the 4th state of matter Able to classify plasma w.r.t. sources, temp. versus density, knowledge about plasma applications.
Course Learning Outcomes	1) to identify the 4th state of matter 2) to learn the representations of plasma. 3) to identify the plasma applications

WEEKLY COURSE CONTENT

Week	Topics	Teaching and Learning Methods and Techniques	Study Materials
1. Week	What is plasma?	Oral lectures Homeworks Interactive discussions	
2. Week	Main parameters of plasma; debye length, plasma frequency	Oral lectures Homeworks Interactive discussions	
3. Week	Equation of motion of charged particle at E and B field	Oral lectures Homeworks Interactive discussions	
4. Week	Equation of motion of charged particle at E and B field	Oral lectures	

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

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

		Homeworks Interactive discussions	
5. Week	Fluid description of plasma	Oral lectures Homeworks Interactive discussions	
6. Week	Fluid description of plasma	Oral lectures Homeworks Interactive discussions	
7. Week	Electromagnetic waves in plasma	Oral lectures Homeworks Interactive discussions	
8. Week	Plasma sources	Oral lectures Homeworks Interactive discussions	
9. Week	Plasma sources	Oral lectures Homeworks Interactive discussions	
10. Week	Plasma diffusions	Oral lectures Homeworks Interactive discussions	
11. Week	Plasma applications	Oral lectures Homeworks Interactive discussions	
12. Week	Kinetic theory of plasma	Oral lectures Homeworks Interactive discussions	
13. Week	Kinetic theory of plasma	Oral lectures Homeworks Interactive discussions	
14. Week	Preperation for final Exam	Oral lectures Homeworks Interactive discussions	
15. Week	General Review	Oral lectures	
16. Week	Final Exam	Written Exam	

RESOURCES

Recommended Sources
Francis F. Chen, 2006, Introduction to plasma physics and controlled fusion New York, Springer.
R.J. Goldston, P.H. Rutherford, 1995, Introduction to Plasma Physics, Taylor & Francis
D.R. Nicholson, , 1983, Introduction to Plasma Theory, Wiley

ASSESSMENT

Measurement and Evaluation Methods and Techniques		
40% Mid Term Exam 60% Final Exam		
In-Term Studies	**Quantity**	**Percentage**
Mid Term Exam 1	1	30

Presentation/Seminar	1	30
Total	2	60
End-Term Studies	**Quantity**	**Percentage**
Final Exam	1	40
Total	1	40
Contribution Of In-Term Studies To Overall Grade		60
End-Term Studies		40
Total		100

COURSE CATEGORY

Course Category	Percentage
Support Courses	% 100

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES

Programme Outcomes	Contribution Level	DK1	DK2	DK3
PY1	4	4	4	4
PY2	4	4	4	4
PY3	4	4	4	4
PY4	1	1	1	1
PY5	3	3	3	3
PY6	1	1	1	1
PY7	1	1	1	1
PY8	1	1	1	1
PY9	1	1	1	1
PY10	1	1	1	1
PY11	1	1	1	1
PY12	1	1	1	1
PY13	1	1	1	1
PY14	1	1	1	1
PY15	3	3	3	3

*DK = Course's Contrubution.

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

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ECTS CREDITS AND COURSE WORKLOAD

Event	Quantity	Duration (Hour)	Total Workload (Hour)
Presentation/Seminar	2	2	4
Mid Term Exam Preparation	1	15	15
Final Exam Preparation	1	20	20
Further Study	14	2	28
Class Hours (14 weeks)	14	3	42

Preliminary Study	14	1	14
Research&Project	2	15	30
Mid Term Exam 1	1	3	3
Final Exam	1	3	3
Assignment 1	1	10	10
Assignment 2	1	10	10
		Total Workload	179
		Total Workload / 25.5 (s)	7.02
		ECTS Credit of the Course	7