Course Information

COURSE INFORMATION

Course Title	Code	Semester	L+U Hour	Credits	ECTS
Optic and Waves	FZK207	3. Semester	3 + 2	4.0	6.0

Prerequisites	None

Language of Instruction	Turkish
Course Level	Bacheclor's Degree (First Cycle)
Course Type	Compulsory
Mode of delivery	Face to face
Course Coordinator	Assist. Prof. Dr. Mustafa KURT
Instructors	Assist. Prof. Dr. Mustafa KURT Assist. Prof. Dr. Oktay YILMAZ
Assistants	
Course Objectives	Investigation to electromagnetic waves, superposition, light and properties, reflection and refractions laws, geometrical optics, interference, diffraction and polarizations.
Course Content	Waves Electromagnetic waves Nature and propagation of light Huygen and Fermat Principles Geometric Optics Thin and Thick Lenses Mirrors Superposition of waves Fourier Transformation Interference Thin films and Newton Rings Diffraction Difraction in two slits Grating and Interferometers
Course Learning Outcomes	1) learn the concept of waves, physical application of waves and superposition of waves 2) invastigate wave and particle properties of light 3) invatigate of optical component and gain the ability of analyze to any optical system 4) take the ability of identify physical problems, solve of them with the optical background 5) learn the principal of camera and light analyzing system and determine the basic parameter of optical design

WEEKLY COURSE CONTENT

Week	Topics	Teaching and Learning Methods and Techniques	Study Materials
1. Week	Wave motion	Face to faceLecture	
2. Week	Electromagnetic Waves	Face to faceLecture	
3. Week	Nature and propagation of light	Face to faceLecture	
4. Week	Huygen and Fermat Principles	Face to faceLecture	
5. Week	Geometric Optic	Face to faceLecture	

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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CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES
ECTS credits and course workload

6. Week	Thin and Thick Lenses	Face to faceLecture	
7. Week	Mirrors	Face to faceLecture	
8. Week	Superposition of waves	Face to faceLecture	
9. Week	Fourier Transformation	Face to faceLecture	
10. Week	Interference	Face to faceLecture	
11. Week	Thin films and Newton Rings	Face to faceLecture	
12. Week	Diffraction	Face to faceLecture	
13. Week	Difraction in two slits	Face to faceLecture	
14. Week	Grating and Interferometers	Face to faceLecture	
15. Week	Review	Face to faceLecture	
16. Week	Final Exam	Written Exam	

RESOURCES

Recommended Sources
Üniversite Fiziği, Cilt 2, Young ve Freedman, ISBN:978-605-4248-01-8
Optik, 4. Baskı, E. Hecht, ISBN:975-6885-02-5
Introduction to Optics, Pedrotti, ISBN: 978-0131499331

ASSESSMENT

Measurement and Evaluation Methods and Techniques		
Quiz 2 10 Homework 5 10 Mid-term 1 40 Final 1 40 TOTAL : 100		
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
Area of Specialization Courses	% 100

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES

Programme Outcomes	Contribution Level	DK1	DK2	DK3	DK4	DK5
PY1	4	4	4	4	4	4
PY2	3	3	3	3	3	3
PY3	4	4	4	4	4	4
PY4	5	5	5	5	5	5

PY5	3	3	3	3	3	3
PY6	4	4	4	4	4	4
PY7	5	5	5	5	5	5
PY8	2	2	2	2	2	2
PY9	3	3	3	3	3	3
PY10	2	2	2	2	2	2
PY11	4	4	4	4	4	4
PY12	4	4	4	4	4	4
PY13	4	4	4	4	4	4
PY14	5	5	5	5	5	5
PY15	5	5	5	5	5	5

*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)
Class Hours (14 weeks)	14	5	70
Final Exam Preparation	1	20	20
Mid Term Exam Preparation	1	15	15
Further Study	2	8	16
Quiz 1	2	2	4
Assignment 1	5	6	30
Final Exam	1	2	2
Mid Term Exam 1	1	2	2
Research&Project	1	6	6
		Total Workload	165
		Total Workload / 25.5 (s)	6.47
		ECTS Credit of the Course	6