



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Luminescence Spectroscopy II							
Course Code		FZK614		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	6	Workload	174 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		To get information about the techniques of luminescence spectroscopy and applications.							
Course Content		Fundamentals of luminescence spectroscopy. Localized and delocalized systems. The fundamentals of photoluminescence and applications. The fundamentals of thermoluminescence and applications.							
Work Placement									
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Individual Study, Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	40
Assignment	7	20

Recommended or Required Reading

1	Modern Luminescence Spectroscopy of Minerals and Materials. Michael Gaft, Renata Reisfeld, Gérard Panczer
2	Handbook of luminescent semiconductor materials. Leah Bergman, Jeanne L. McHale
3	Handbook of Applied Solid State Spectroscopy. D. R. Vij
4	Thermoluminescence of solids. S.W.S McKeever.

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to Luminescence Spectroscopy
2	Theoretical	Spontaneous Emission, Absorption, and Induced Emission
3	Theoretical	Measurements and Techniques
4	Theoretical	Localized Systems
5	Theoretical	Processes in Localized System Service
6	Theoretical	Delocalized Systems
7	Theoretical	Processes in Delocalized Systems
8	Intermediate Exam	Midterm
9	Theoretical	Principles of Photoluminescence I
10	Theoretical	Principles of Photoluminescence II
11	Theoretical	Photoluminescence applications I
12	Theoretical	Photoluminescence applications II
13	Theoretical	Principles of Thermoluminescence
14	Theoretical	Thermoluminescence applications I
15	Theoretical	Thermoluminescence applications II
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	3	84
Assignment	7	5	3	56
Midterm Examination	1	12	5	17
Final Examination	1	12	5	17
Total Workload (Hours)				174
[Total Workload (Hours) / 25*] = ECTS				7

*25 hour workload is accepted as 1 ECTS



Learning Outcomes

1	Students can realize the fundamentals of luminescence spectroscopy.
2	Students can express localized and delocalized systems.
3	Students can explain the photoluminescence and applications.
4	Students can explain the thermoluminescence and applications.
5	Students can relate luminescence and the other branches of physics.

Programme Outcomes (Physics Doctorate)

1	
2	
3	
4	
5	
6	
7	
8	

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	5	4	5	4	5
P2	4	4	4	5	5
P3	4	3	4	3	4
P4	3	4	3	3	4
P5	4	3	3	4	3
P6	3	4	4	3	3
P7	2	2	3	2	3
P8	3	3	4	3	3

