



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Luminescence Spectroscopy I							
Course Code		FZK613		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 fundamental principles of luminescence and luminescence spectroscopy.							
Course Content		Fundamentals of luminescence. Spectroscopic techniques. Luminescent minerals. Luminescence centers. Application of spectroscopic techniques.							
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

Week	Weekly Detailed Course Contents	
1	Theoretical	Theoretical Background I
2	Theoretical	Theoretical Background II
3	Theoretical	Theoretical Background III
4	Theoretical	Experimental Techniques I
5	Theoretical	Experimental Techniques II
6	Theoretical	Experimental Techniques III
7	Theoretical	Luminescent Minerals I
8	Intermediate Exam	Midterm Exam
9	Theoretical	Luminescent Minerals II
10	Theoretical	Luminescent Minerals III
11	Theoretical	Luminescence Centers I
12	Theoretical	Luminescence Centers II
13	Theoretical	Luminescence Centers III
14	Theoretical	Applications of Laser-Induced Time-Resolved Spectroscopic Techniques
15	Theoretical	Review and preparation to final exam
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 understand the luminescence phenomenon.
2	Students can express the luminescence spectroscopic techniques.
3	Students can explain the luminescence centers.
4	Students can tell the application areas of luminescence spectroscopy.
5	Students can relate the 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	4	4	5	4	4
P2	3	4	5	4	5
P3	4	4	4	3	4
P4	4	3	3	3	3
P5	3	3	3	2	4
P6	2	3	3	2	3
P7	4	2	3	3	4
P8	4	3	2	4	3

