



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Polymer Characterization							
Course Code		KİM647		Couse Level		Third Cycle (Doctorate Degree)			
ECTS Credit	10	Workload	250 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		This course aims to understand principles of polymer characterization methods for students							
Course Content		Basic concepts related with polymers, characterization methods of polymer, molecular weights of polymers, thermal characterization of polymers, spectroscopic characterization of polymers							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	60
Assignment	4	20

Recommended or Required Reading

1	Experimental Methods in Polymer Chemistry, Jan F. RABEK
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Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction and basic concepts
2	Theoretical	Overview of the structure of polymers
4	Theoretical	Molecular weight averages
5	Theoretical	Fractionation of polymers
6	Theoretical	Colligative property methods
7	Theoretical	Viscosimetric methods
8	Intermediate Exam	Midterm Exam
9	Theoretical	Optical methods of polymer research
10	Theoretical	Light scattering
11	Theoretical	UV-visible spectroscopy of polymers
12	Theoretical	Infrared spectroscopy of polymers
13	Theoretical	Thermal analysis of polymer
14	Theoretical	The glass transition temperature and the melting point
15	Theoretical	Measurements of anisotropy of polymers
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Assignment	6	0	9	54
Reading	1	0	97	97
Quiz	4	2	4	24
Midterm Examination	1	12	2	14
Final Examination	1	16	3	19
Total Workload (Hours)				250
[Total Workload (Hours) / 25*] = ECTS				10

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Basic concepts related with polymers
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2	Characterization methods of polymer
3	Molecular weights of polymers
4	Thermal characterization of polymers
5	Spectroscopic characterization of polymers

Programme Outcomes (Chemistry Doctorate)

1	Depending on the master degree competences, develops, insights and innovates current and advanced knowledge and/or research in proficiency level.
2	Gains high skill levels in using research methods in the field of his/her study.
3	Comprehends the interaction between disciplines related to his/her field. Reaches to original results using his/her expertise in order to analyze, synthesize and evaluate new and complicated ideas.
4	Enlarges the boundaries of his/her field of knowledge by publishing at least one research paper in national and/or international peer-reviewed journals.
5	Defends his/her original opinions related to his/her field before authority and communicates effectively illustrating his/her competence.
6	May communicate and debate written, orally and visually in European Language Portfolio level C1.
7	Follows the developments in computer software and information and communication technologies developed for his/her research area and uses these in order to solve research problems.
8	Collaborates for scientific research with national and international research teams.
9	Contributes to the course of creation and maintenance of knowledge based society and by introducing the scientific, social and cultural developments to the society he/she is living in.

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	5	5	5	5
P2	5	4	5		3
P3	5	4	5		3
P4	5	4	4		3
P5	5	3	5		3
P6	5	3			
P8				4	
P9	4	4			

