AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Molecularly Imprinted Polymers and Analytical Applications						
Course Code		KİM513		Couse Level		Second Cycle (Master's Degree)		
ECTS Credit	6	Workload	152 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The main objective of this course is to give fundamental principles of molecularly imprinted polymers and their applications in analytical chemistry field						
Course Content		Fundamental principles of molecular imprinting, methods of molecular imprinting, characterization of molecularly imprinted poymers, analytical applications of molecularly imprinted polymers						
Work Placement		N/A						
Planned Learning Activities and Teaching Methods			Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)								

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Molecularly Imprinted Polymers: Man-Made Mimics of Antibodies and their Application in Analytical Chemistry, Elsevier 2001. Edited by B. Sellergren

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to molecularly imprinted polymers
2	Theoretical	Fundamental principles of molecular imprinting
3	Theoretical	Covalent imprinting
4	Theoretical	Non-covalent imprinting
5	Theoretical	Imprinting based on metal-coordination
6	Theoretical	Methods for synthesis and characterization of molecularly imprinted polymers
7	Theoretical	Metal ion imprinting technique
8	Theoretical	Metal ion imprinted polymer based solid-phase extraction
9	Theoretical	Sensor applications of metal-ion imprinted polymers
10	Intermediate Exam	Midterm Exam
11	Theoretical	Imprinting of biological macromolecules
12	Theoretical	Molecularly imprinted polymer based solid-phase extraction, separation and preconcentration
13	Theoretical	Applications of molecularly imprinted polymers based on high performance liquid chromatography
14	Theoretical	Additional chromatographic applications of molecularly imprinted polymers
15	Theoretical	Sensor applications of molecularly imprinted polymers
16	Final Exam	Final Exam
17	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Assignment	4	18	0	72
Midterm Examination	1	10	2	12
Final Examination	1	24	2	26
			Total Workload (Hours)	152
		[Total Workload (Hours) / 25*] = **ECTS**		6
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	to be able to acquire knowledge in the field of molecularly imprinted polymers
2	to be able to illustrate an understanding of the principles of molecular imprinting
3	to be able to acquire knowledge on the basic principles of synthesis of molecularly imprinted polymers
4	to be able to acquire knowledge on dealing with characterization of molecularly imprinted polymers
5	to be able to gain knowledge on the analytical applications of molecularly imprinted polymers
6	to be able to obtain and demonstrate the knowledge in interdisciplinary fields
7	to be able to obtain and transfer literature information regarding the course

Programme Outcomes *(Chemistry Master)*

1	To be able to gain proficiency in depths and analysis by statistical methods in the same or a related area depending on the undergraduate competence,.
2	To be able to use the knowledge of his/her field and the skills to solve problems and/or applications in interdisciplinary research.
3	To be able to adopt to evaluate the information and skill his/her field by critical approach.
4	To be able to evaluate the effect of important persons, case and fact on his/her field applications.
5	To be able to gain the ability to discuss write and orally present to a group of literate listener.
6	To be able to communicate orally and written in a foreign language at least at European language B2 level.
7	To be able to use computer programs related to his/her field and have skills for informatics communication.
8	To be able to be careful in protecting social, scientific and cultural ethics in collection data, application and presentation.
9	To be able to develop strategic, political and application plans in his/her field and may evaluate the outcomes in quality periods.

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

	L1	L2	L3	L4	L5	L6	L7
P1						4	
P2						5	
P3		5	4	4	4		
P5							4
P6	4		4	4	4		