AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Analytical Spectrometry							
Course Code	KİM518		Couse Level	Second Cycle (Master's Degree)				
ECTS Credit	6	Workload	149 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	Fundamentals of atomic and molecular spectrometry and introduction of the instruments used in spectrometry.							
Course Content	In this courses, it is aimed to give a information on fundamentals of atomic and molecular spectrometry .Also, their analysis methods will be discussed.							
Work Placement	N/A							
Planned Learning Activities and Teaching Methods		Explanation (Presentation), Individual Study, Problem Solving						
Name of Lecturer(s)								

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	35
Assignment	3	45

Recommended or Required Reading

1	Galan L. D., Analytical spectrometry, Adam Hilger Ltd, London, 1971
2	Broekaert J. A. C., Analytical atomic spectrometry with flames and plasmas, Wiley VCH Verlag Gmbh, 2002

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to spectrometry
2	Theoretical	Spectrochemical analysis methodology
3	Theoretical	Atomic absorption spectrometry
4	Theoretical	Atomic emission spectrometry
5	Theoretical	Inductively coupled plasma spectrometry
6	Theoretical	Atomic fluorescence spectrometry- Ouiz
7	Theoretical	Molecular spectrometry
8	Theoretical	UV/Vis spectrometry
9	Theoretical	Student presentation, Discussion
10	Theoretical	Turbidimetry and nephelometry
11	Theoretical	Infrared spectrometry
12	Theoretical	X-ray spectrometry- Ouiz
13	Theoretical	Nuclear magnetic resonance spectrometry
14	Theoretical	Mass spectrometry
15	Theoretical	Student presentation,Discussion
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Assignment	5	0	5	25
Midterm Examination	1	48	2	50
Final Examination	1	30	2	32
			Total Workload (Hours)	149
			[Total Workload (Hours) / 25*] = **ECTS**	6

25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	to be able to recognize the fundamental concepts about spectroscopy and spectrometry.
2	to be able to define the similarities and differences between atomic and molecular spectrometry.
3	to be able to find out and compare the functions of enstrumental components and their arrangement in atomic and molecular spectrometric technics.
4	to be able to examine various analytical determinations made by atomic and molecular spectrometry.
5	To be able to solve problems related to determinations using atomic and molecular spectrometry techniques.

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
P1	4	4	4	4	4
P2				3	3
P3			3	3	3