



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Heavy Metal Toxicities							
Course Code		KİM560		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	6	Workload	156 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		Heavy metal metabolisms, toxicities. To teach the separation techniques related to heavy metal depletion							
Course Content		Biochemically important elements and roles, metabolisms, toxicities and illness of various metals.							
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	20
Final Examination	1	60
Assignment	1	20

Recommended or Required Reading

1	Lecture notes of the lecturer.
---	--------------------------------

Week	Weekly Detailed Course Contents	
1	Theoretical	Elemental constitution of human body, biochemically important elements and their quantitation and roles in the body
2	Theoretical	Effects of heavy metals
3	Theoretical	Aluminium metabolism, toxicity and related illness
4	Theoretical	Arsenic metabolism, toxicity and related illness
5	Theoretical	Mercury metabolism, toxicity and related illness
6	Theoretical	Lead metabolism, toxicity and related illness
7	Theoretical	Iron metabolism, toxicity and related illness
8	Intermediate Exam	MidtermExam
9	Theoretical	Cadmium metabolism, toxicity and related illness
10	Theoretical	Chromium metabolism, toxicity and related illness
11	Theoretical	Antidotes which are used for the treatment of metal poisoning
12	Theoretical	Depletion techniques
13	Theoretical	Techniques and applications used in heavy metal depletion
14	Theoretical	Student presentation
15	Theoretical	Student presentation
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Assignment	1	30	0	30
Midterm Examination	1	40	2	42
Final Examination	1	40	2	42
Total Workload (Hours)				156
[Total Workload (Hours) / 25*] = ECTS				6

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	to be able to acquire basic knowledge about heavy metals.
2	to be able to recognize and discuss the effects of heavy metals.



3	to be able to define the illnesses occurred with heavy metal toxicity.
4	to be able to apply heavy metal depletion techniques.
5	to be able to acquire basic knowledge about determination of heavy metals

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	5	5	5	5	5
P2			5	5	5
P3			5	5	5
P8	5	5	5	5	5

