AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Antioxidants								
Course Code	KİM562		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	6	Workload	149 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	Rapid progress in the application of antioxidant substances warranted the need of knowledge on antioxidants and related methods.								
Course Content	In this course, it is aimed to give information about antioxidants and types of antioxidants. Also, their analysis methods will be discussed.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Case Study, Individual Study								
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	Antioxidant determination methods. Prof. Dr. A. Alev KARAGÖZLER (unprinted lecture notes)
2	Walton, N.J., Brown, D.E. (1999) Chemicals From Plants. Imperial College Qress, London. ISBN: 981-02-2773-6
3	Cadenas, E., Packer, L. (2001) Handbook of Antioxidants. Marcel Dekker Inc. New York. ISBN: 0-8247-0547-5

Week	Weekly Detailed Course Contents	
1	Theoretical	Antioxidants: Definition and history
2	Theoretical	Biochemical basis of antioxidant activity
3	Theoretical	Reactive oxygen species and oxidative stres
4	Theoretical	Chemical classification of antioxidants
5	Theoretical	Natural and synthetic antioxidants
6	Theoretical	Antioxidant determination methods and their chemical basis
7	Theoretical	Methods dependent on electron transfer (ET)
8	Theoretical	Methods dependant on hydrogen atom transfer (HAT)
9	Theoretical	Other related antioxidant determination methods
10	Intermediate Exam	Midterm Exam
11	Theoretical	Plant antioxidant sources
12	Theoretical	Current antioxidant research
13	Theoretical	Current antioxidant research
14	Theoretical	Student presentation on antioxidant research
15	Theoretical	Student presentation on antioxidant research
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 define antioxidants.
2	to be able to classify the antioxidants according to their chemical structure.
3	to be able to recognize the mechanism of antioxidant effects.
4	to be able to define the antioxidant determination methods.
5	to be able to acquire knowledge on the systematic of antioxidant studies.

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		4
P2	5	4	4	5	5
P3		5	4	4	4
P5	5				
P7				3	3
P8				5	
P9	4	4	4		4