



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Free Radicals and Antioxidant System							
Course Code		CSAG523		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	4	Workload	100 ( <i>Hours</i> )	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		Understanding the factors that cause oxidative damage and the mechanisms of cleansing from the body							
Course Content		Definition of Radicals, Types of Radicals, Free Oxygen Radicals, Free Radical Cleaning Activities, Free Radical Cleaning Activities, Potential Markers of Oxidative Stress, Antioxidants, Enzymatic Antioxidants, Non-Enzymatic Antioxidants, Total Antioxidant Capacity Measurements, Antioxidant Effect Mechanisms, Determination of Antioxidant Capacities of Foods, Phenolic Compounds and Antioxidant Effects.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study, Problem Solving					
Name of Lecturer(s)									

### Assessment Methods and Criteria

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

### Recommended or Required Reading

1	Akkus, I. Free radicals and physiopathological effects, Selected publications, 1996
2	Various literature from the Internet

Week	Weekly Detailed Course Contents	
1	Theoretical	Free Radicals and Their Formations
2	Theoretical	Free Radical Types
3	Theoretical	Losses of Free Radicals
4	Theoretical	antioxidants
5	Theoretical	Enzymatic Antioxidants
6	Theoretical	Non-Enzymatic Antioxidants
7	Theoretical	Measurement of Antioxidant Capacity
8	Intermediate Exam	Midterm
9	Theoretical	Antioxidant Capacity Measurement Techniques
10	Theoretical	Recognition of Phenolic Compounds
11	Theoretical	Phenolic Compounds and Their Structure and Antioxidant Relationship
12	Theoretical	Case Studies and Literatur Review
13	Theoretical	Case Studies and Literatur Review
14	Theoretical	Student Presentations
15	Final Exam	Final

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	0	28
Midterm Examination	1	30	2	32
Final Examination	1	38	2	40
Total Workload (Hours)				100
[Total Workload (Hours) / 25*] = ECTS				4

\*25 hour workload is accepted as 1 ECTS

### Learning Outcomes

1	To be able to have up-to-date theoretical and practical knowledge at the level of expertise in environmental health
2	Having knowledge about the techniques, techniques, and devices of the technology to treat, care and educate



3	Being able to take active role in environmental health organization and management
4	To be able to solve environmental health problems with scientific methods and to evaluate them with a critical approach
5	Obtaining theoretical and practical knowledge on environmental ethics, policy and planning, information systems, professional foreign languages, finance and intermediary institutions
6	Ability to produce, execute and finalize new projects for scientific research
7	To be able to interpret researches using appropriate statistical methods, to write a report of the research they have participated in, to publish it in a national / international accepted journal, to present it at scientific meetings
8	Having theoretical and practical knowledge about environmental health, historical development and economic dimension of environmental health
9	Being able to have theoretical and practical knowledge about the deterioration effects of the environment
10	Being able to have the knowledge and ability to apply in strategic management, marketing, performance management, quality management and human resources management in organizations providing services in the field of environmental health

**Programme Outcomes (Environmental Health Interdisciplinary Master)**

1	To be able to have theoretical and practical updated information in the field of environmental health.
2	To be able to solve problems related to environmental health with scientific methods and evaluate them with a critical approach,
3	To have the ability to produce, execute and finalize new projects for scientific research,
4	To be able to have theoretical and practical knowledge about environmental health, historical development and economic dimension of environmental health,
5	To be able to have theoretical and practical knowledge about the deterioration effects of environment,

**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	L8	L9	L10
P1	5	4	3	2	3	5	4	5	4	2
P2	5	4	3	3	2	4	5	4	5	3
P3	5	4	3	2	4	1	4	5	3	5
P4	5	4	3	3	4	2	5	4	2	4
P5	4	4	3	2	5	3	4	5	4	1

