



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Fertilizer Analysis							
Course Code		ZTO507		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	200 ( <i>Hours</i> )	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		Straight fertilizers, the compounds and the liquids at the Turkish Market are introduced. The methods of analysis are explained and practiced in the laboratory.							
Course Content		Chemical and organic fertilizers on sale in the market determine the methods of chemical analysis of food content. Fertilizer production technology, analytical chemistry, Soil Chemistry, Fertilizers and Fertilization							
Work Placement									
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Discussion, Case Study, 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	Kacar, B., Kütük, C., 2010, Gübre Analizleri. Nobel Yayın Dağıtım, No: 1497. Ankara
2	Kacar, B., Katkat, V., 2009, Gübreler ve Gübreleme Tekniği. Nobel Yayın Dağıtım, No: 1119, Ankara
3	Web Sites

Week	Weekly Detailed Course Contents	
1	Theoretical	Principles of mineral fertilization
	Preparation Work	Practice and Theory
2	Theoretical	Chemical and physical properties of mineral fertilizers
	Preparation Work	Practice and Theory
3	Theoretical	Standards for fertilizers
	Preparation Work	Practice and Theory
4	Theoretical	N Fertilizers
	Preparation Work	Practice and Theory
5	Theoretical	P Fertilizers
	Preparation Work	Practice and Theory
6	Theoretical	K Fertilizers
	Preparation Work	Practice and Theory
7	Theoretical	Composed fertilizers
	Preparation Work	Practice and Theory
8	Intermediate Exam	Midterm Exam
9	Theoretical	Calcium Fertilizers
	Preparation Work	Practice and Theory
10	Theoretical	Magnesium Fertilizers
	Preparation Work	Practice and Theory
11	Theoretical	Micro element Fertilizers
	Preparation Work	Practice and Theory
12	Theoretical	Manure Fertilizers
	Preparation Work	Practice and Theory
13	Theoretical	Trash Fertilizers
	Preparation Work	Practice and Theory
14	Theoretical	Waste
	Preparation Work	Practice and Theory



15	Theoretical	Waste
	Preparation Work	Practice and Theory
16	Final Exam	FINAL EXAM

**Workload Calculation**

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Assignment	2	0	30	60
Term Project	1	0	40	40
Midterm Examination	1	0	14	14
Final Examination	1	0	30	30
Total Workload (Hours)				200
[Total Workload (Hours) / 25*] = ECTS				8

\*25 hour workload is accepted as 1 ECTS

**Learning Outcomes**

1	To be able to define the importance of mineral fertilizers and soil physical and chemical characteristics
2	To be able to analyse the physical properties of mineral fertilizers to apply two and evaluate the results
3	To be able to apply the mineral fertilizers and chemical properties and evaluate the results of the analysis.
4	To be able to define the importance of organic fertilizers and characteristics.
5	To be able to apply the organic fertilizers and chemical properties and evaluate the results of the analysis.

**Programme Outcomes (Field Crops Master)**

1	To be able to improve and deepen the level of expertise in field crops on the basis of the departments licenses qualifications.
2	To be able to recognize the subjects related to field crops, to be able to solve these and make interpretation.
3	To be able to have the skills of acting independently, to have power to decide and to create.
4	To be able to work in teams between departments
5	To be able to give briefing about latest information of Field Crops in written, oral and visual ways.
6	To be able to take responsibility for developing the new approaches and to formulate a solution facing unforeseen complex situations of applications,
7	To be able to defend the original opinions in both Turkish and in foreign languages by using these languages and communicating effectively.
8	To be able to contribute to science by producing knowledge for the aim of improving quality, efficiency and sustainability
9	To be able to apply breeding methods in order to improve new varieties for Field Crops.
10	To be able to maintain and select the appropriate statistical methods within the framework of the study, evaluation of scientific ethics; to convert the results into a report/dissertation and to offer them by producing scientific publications.

**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	3	4	3	4
P2	4	3	4	3	4
P3	4	3	4	3	4
P4	4	3	4	3	4
P5	4	3	4	3	4
P6	4	3	4	3	4
P7	4	3	4	3	4
P8	4	3	4	3	4
P9	4	3	4	3	4
P10	4	3	4	3	4

