



**AYDIN ADNAN MENDERES UNIVERSITY**  
**GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES**  
**FIELD CROPS**  
**FIELD CROPS**  
**FIELD CROPS MASTER**  
**COURSE INFORMATION FORM**

Course Title	Biocemistry Of Plant								
Course Code	ZTO505	Course Level		Second Cycle (Master's Degree)					
ECTS Credit	7	Workload	176 (Hours)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	Structure of plant cell, organic matter, nutrient physiology of plants, components of organic matter (carbon hydrates, proteins, lipids), inorganic components and their roles on enzymatic reactions and photosynthesis carbon assimilation of different plants, Glico lyses, fermentation, DNA and RNA molecules.								
Course Content	Knowledge of plant biochemistry, known enzymes, proteins, photosynthesis, knowledge of the cycle of craps knowledge, relationships with lipids, known and knowledge of plant nutrients								
Work Placement									
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Discussion, Case Study, Individual Study, Problem Solving								
Name of Lecturer(s)	Assoc. Prof. Saime SEFEROĞLU								

#### Assessment Methods and Criteria

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

#### Recommended or Required Reading

1	Mengel, K., Ernährung und Stoffwechsel der Pflanze
2	Kacar, B.,Katkat,V., Bitki Besleme
3	Öztürkcan, O., Biyokimyaya Giriş
4	Marschner, H., Mineral Nutrition of Higher Plants Second Edition

Week	Weekly Detailed Course Contents	
1	Theoretical	The structure of plant cell and photosynthesis.
	Preparation Work	Introduction to laboratories
2	Theoretical	Carbon Assimilations
3	Theoretical	Organic matter and decomposition of organic matter
	Preparation Work	Preparation of Solutions
4	Theoretical	Inorganic components
	Preparation Work	Indicator and use of analyses
5	Theoretical	Inorganic components and role of the photosynthesis.
	Preparation Work	Organic matter analysis of plant samples
6	Theoretical	Protein metabolism
	Preparation Work	Protein analysis
7	Theoretical	Carbon hydrate metabolism
	Preparation Work	Carbon hydrate analysis
8	Intermediate Exam	Midterm Exam
9	Theoretical	Lipids
10	Theoretical	Lipids of decomposition
11	Theoretical	Nitrogen metabolism
	Preparation Work	Oil acid analysis
12	Theoretical	Nitrogen metabolism
	Preparation Work	Glycol analysis
13	Theoretical	Recognizes the Krebs cycle
	Preparation Work	Show of the power point
14	Theoretical	Glycolhysis, fermentation
	Preparation Work	Project



15	Theoretical	DNA and RNA molecules
	Preparation Work	Project
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	15	30
Term Project	1	0	40	40
Midterm Examination	1	0	20	20
Final Examination	1	0	30	30
Total Workload (Hours)				176
[Total Workload (Hours) / 25*] = ECTS				7

\*25 hour workload is accepted as 1 ECTS

**Learning Outcomes**

1	To be able to comprehend the plant metabolic events
2	To be able to recognise proteins
3	To be able to recognise enzymes
4	To be able to recognise coenzyme and substrate
5	To be able to recognise the elements of the biochemistry of plant relationships

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

