AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Plant Physiology								
Course Code	OT130		Couse Level	Short Cycle (Associate's Degree)					
ECTS Credit	3	Workload	75 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	Some of the basic metabolic events that occur in plants under normal conditions,. To understand the metabolic changes that occur in plants and plants under stress growth, development and movement								
Course Content	Plant physiology and related concepts, Diffusion, osmosis, Inflatable events Water loss (transpiration) Plant-soil relationships, and photosynthesis.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Discussion, Case Study, Individual Study								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading	
1	Plant Physiology, (Prof. Dr. Suna Bozcuk)
2	Plant Physiology, Prof. Dr. Burhan Kacar, 1989
3	Taiz, L. ve Zeiger, E. 1991. Plant Physiology

Week	Weekly Detailed Course Contents	
1	Theoretical	Plant physiology and agriculture, portions of plant physiology, plant structure of compound.
2	Theoretical	Plant seeds, germination and germination recession (dormancy).
3	Theoretical	Diffusion, osmosis and swelling of the events, Factors affecting the value of the osmotic pressure and the pressure in plant cells.
4	Theoretical	Plant water loss (Taranspirasyon) Factors affecting transpiration, Liquid water loss in plants.
5	Theoretical	Plant-soil-water relations, Root types and systems, Environmental factors that affect water the intake of, The water absorption of leaves.
6	Theoretical	Plants in nutrient elements intake, Absorption mechanisms, Membrane tarnsportu and types, Roles they play in the life of the plant nutrient elements (general and specific roles).
7	Theoretical	Photosynthesis; History relevant to the understanding of photosynthesis, Light energy, which play a role in photosynthesis pigments, chloroplasts, The role of other compounds, The mechanism of photosynthesis fotofosforilizasyon.
8	Preparation Work	Repetition of the topics covered, exam preparation.
	Intermediate Exam	Mid-term exam.
9	Theoretical	Photosynthesis; ATP synthesis mechanism, Dark reactions and CO2 Reduction, Calvin cycle, energy balance, Leaf anatomy of C3 and C4 plants, The importance of adaptation to the mechanisms of photosynthesis, the factors affecting photosynthesis (Environmental and plant factors).
10	Theoretical	Chemosynthesis; Chemosynthesis bacteria, nitrate and nitrite, Sulfur, iron, hydrogen, and methane bacteria, chemosynthesis.
11	Theoretical	Nitrogen metabolism, The importance of nitrogen, Nitrogen compounds useful for plants, Atmospheric nitrogen utilization and nitrogen cycle in nature, Nitrate reduction, amino acids, amino acid synthesis.
12	Theoretical	Protein synthesis, classification of proteins and nucleic acids.
13	Theoretical	Respiratory coefficient, Aerobic respiration mechanism, Pentaz phosphate pathway (PPP), Anaerobic respiration (fermentation), and the kinds of fermentation.
14	Theoretical	Factors affecting respiration (plant and environmental factors).
15	Theoretical	General review.

16	Final Exam	Final exam.

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Assignment	5	0	2	10
Individual Work	6	2	1	18
Midterm Examination	1	8	1	9
Final Examination	1	9	1	10
			Total Workload (Hours)	75
			[Total Workload (Hours) / 25*] = **ECTS**	3
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	To be able to comprehend plant physiology and general concepts, uptake of water and mineral substances and effective examination of some of the physical rules and principles,
2	To be able to comprehend transport of minerals and organic compounds in water.
3	To be able to comprehend Photosynthesis and respiration.
4	To be able to comprehend growth and development, external and internal factors affecting growth and development.
5	To be able to comprehend some important physiological events on growth and development.
6	To be able to comprehend important physiological events on growth and development.

Programme Outcomes *(Olive Cultivation and Olive Processing Technology)*	
1	To be able to identify olive, soil and water and to having knowledge these
2	To be able to comprehend knowledge botany and fruit growing
3	To be able to comprehend table olive technology and to apply
4	To be able to comprehend knowledge basic biochemistry and olive oil chemistry and to have olive oil with modern and traditional systems, to have knowledge olive oil rafinery, basic process and to have apply olive oil extraction
5	To be able to preserve olive and olive products in appropriate condition
6	To be able to comprehend growing olive plant with necessary agricultural methods and to have general maintenance of olive tree
7	To be able to evaluate olive by-products
8	To be able to comprehend knowledge about vegetable genetic
9	To be able to comprehend knowledge occupational safety and have apply first aid
10	To be able to apply necessray laboratory analysis in olive and olive products production
11	To be able to apply hygiene and sanitation rules in factory
12	To be able to comprehend knowledge of proffessional ethics and responsibility
13	To be able to comprehend knowledge marketing of olive products and to have olive management
14	To be able to communicate verbally and literally
15	To be able to comprehend planning olive growing and production area
16	To be able to comprehend knowledge vegetable ecology and protection 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
P1	3	4	4	4	4
P2	5	5	5		
P6				4	4
P8	4	4	4	4	4
P10	3		3	3	3
P15		3		4	4
P16			4	5	5