



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Plant Physiology							
Course Code		OT130		Course 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, Infiltrable 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.
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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 (Organic Agriculture)	
1	To have university life, to use computer technology and to have skills for raising of scientific data
2	To produce according to organic agriculture rules
3	To know and apply starter to organic agriculture, and to get product certification
4	To know genetic for organic vegetable and animal species
5	To know and apply organic production principle and regulations and protection of environment
6	Understand and apply production techniques for organic vegetable and animal
7	To understand control methods for diseases and pests in organic agriculture
8	Having knowledge of quality control, preserving and marketing of organic products
9	To having knowledge equipments and methods for new agricultural technologies
10	To have knowledge of professional ethics and responsibility
11	Ability to work in team and individual
12	To communicate orally and in writing
13	To have adopt life-long learning importance and to have follow professional developments

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High				
	L1	L4	L5	L6
P4		4		
P5	3			
P6	5			
P7		5		
P9	3			
P11				3
P12	3			
P13			5	

