

PLANT MORPHOLOGY AND ANATOMY

1	Course Title:	PLANT MORPHOLOGY AND ANATOMY
2	Course Code:	BYL2005
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	2
6	Semester:	3
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. ADEM BIÇAKÇI
15	Course Lecturers:	Prof. Dr. SEVCAN ÇELENK Prof. Dr. AYCAN TOSUNOĞLU
16	Contact information of the Course Coordinator:	Bursa Uludağ Üniversitesi Fen-Edebiyat Fakültesi Biyoloji Bölümü Görükle Kampüsü, Nilüfer/BURSA 16059 e-posta: abicakci@uludag.edu.tr Telefon: 0 224 294 17 89 Bursa Uludag University Faculty of Arts and Science Department of Biology Gorukle Campus, Nilufer/BURSA 16059 e-mail: abicakci@uludag.edu.tr Phone: 0 224 294 17 89
17	Website:	
18	Objective of the Course:	To give an overview about the external and internal structure of Flowering Plants and analyze cellular and tissue structures and give the basic terms and information about the traits of plant organs.
19	Contribution of the Course to Professional Development:	Increases the knowledge about botany.
20	Learning Outcomes:	
	1	Explains basic information about cell structure
	2	Explains types and structures of plant tissues with classifying them
	3	Explains anatomical structures of plant tissues
	4	Explains anatomical structures of plant tissues
	5	Explains external morphologies of plant organs
	6	Explains metamorphoses in plant organs
	7	Explains reproduction types of plants
	8	Explains examining and identifying microscopic and macroscopic structures
	9	
	10	
21	Course Content:	
	Course Content:	

Week	Theoretical	Practice		
1	Plant cell, Cell wall formation, Wall structure, Development of cell wall, Formations in cell wall, Pit-pairs and pit -pairs types, Between cell spaces.			
2	Plant Histology, Classification of Tissues, Meristematic tissues: Cytological structure and classification of Meristems, (Pirmer and Sekonder meristems, Morphogenesis, Apical, Intercalar and differentiation of lateral meristems and different plant groups, apical cell, histogen, tunica-corpus theory, Types of root-tip development; Cambium formation and seasonal activity in cambium,			
3	Permanent structure and classification. Protective tissue: primer protective tissue; Epidermis, stomata, hairs; structure of exodermis and periderm and lenticels, abscission.			
4	b.Basic tissue-structure of parenchyma and variations. c. Support tissue (mechanical system):classification and structure; collenchyma and types; structure of sclerenchyma and types.			
5	d. 1. Vascular tissue in Flowering Plants, classification and structure: (xylem: trache			
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	rays, seasonal rings.tyloses.	14	2.00	28.00
Practicals/Labs		0	0.00	0.00
Self study and preparation	parenchyma, phloem fibers and sclereids, phloem rays, vascular bundles types	14	3.00	42.00
Homeworks		4	5.00	20.00
Projects	(secretory system), Intracellular secretions,	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams	Midterm exam	1	10.00	10.00
Others		0	0.00	0.00
Final Exams	Leaf Anatomy).	1	20.00	20.00
Total Work Load				120.00
Total work load in Gymnosperm and Angiosperms, comparison of anatomical structures in stem				4.00
ECTS Credit of the Course				4.00
	Angiosperms, wood structure.			
10	a. Structure and differentiation of leaf anatomy. Generative organ anatomy (Flower, Fruit, Seed). Flower anatomy: Sepal, Petal, Stamen, Ginekeum of anatomical structure and differentiation.			
11	Fruit anatomy: differences in the anatomical structure of different fruit types; Seed anatomy of different seeds			
12	External organography: Life forms, Vegetative organs (root external morphology, root metamorphoses, external morphology of stem, branching, stem metamorphosis.			

13	Outer morphologic structure of leaf, vascularization, leaf arrangement, leaf metamorphosis. Generative organs (comparison of reproductive organs in Gymnosperm and Angiosperms, flower structure in Angiosperms, properties and differentiations of flower parts, pollination	
14	Flower formulas and diagrams, Flower states, external morphology of fruits and seeds and their differentiation.	

22	Textbooks, References and/or Other Materials:	Bıçakçı A, Tosunoğlu A. Bitki Morfolojisi ve Anatomisi Ders Notları, 2021.
-----------	---	--

23	Assesment	
-----------	-----------	--

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		Relative evaluation

24	ECTS / WORK LOAD TABLE
-----------	-------------------------------

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS
-----------	--

	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	3	0	0	2	0	1	0	0	0	0	1	0	0	0	0	0
ÖK2	3	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0
ÖK3	3	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0
ÖK4	3	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0
ÖK5	3	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0
ÖK6	3	0	0	1	0	2	0	0	0	0	1	0	0	0	0	0
ÖK7	3	0	0	1	0	2	0	0	0	0	1	0	0	0	0	0
ÖK8	3	0	0	2	0	0	2	0	0	4	1	2	0	0	0	0

LO: Learning Objectives	PQ: Program Qualifications
--------------------------------	-----------------------------------

Contribution Level:	1 very low	2 low	3 Medium	4 High	5 Very High
----------------------------	-------------------	--------------	-----------------	---------------	--------------------