

# CYTOGENETIC

1	Course Title:	CYTOGENETIC
2	Course Code:	TAR3306-S
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	3
6	Semester:	6
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	1.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. KÖKSAL YAĞDI
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Prof.Dr. Köksal YAĞDI kyagdi@uludag.edu.tr, 294 15 17 ,Uludağ Üniversitesi, Ziraat Fakültesi, 16059, Görükle / Bursa
17	Website:	
18	Objective of the Course:	Genetic structures of organisms, mechanisms of heredity and plant breeding methods used in the transfer of basic information on the genetic and cytological.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	To explain an organism's cell structure, the morphological structures and functions of chromosomes
	2	To explain the shape of the structure and function of genes and DNA
	3	To explain and understand the importance of mitosis and meiosis in living creatures
	4	To explain the variation in cultivated plants, and to take advantage of this variation in engineering applications
	5	To explain the concept of ploidy and to take advantage of it in plant breeding
	6	Discuss some basic applications of gene technology
	7	To explain the origin of some cultivated plants
	8	
	9	
	10	
21	Course Content:	
	<b>Course Content:</b>	
Week	Theoretical	Practice
1	The concept and history of cytogenetic	Cells and organelles
2	Structure and function of chromosomes, genes	Morphological structure of the chromosome
3	DNA structure and function	Microscope studies of cells

4	Sources of variation in plants	Cell Divisions ( mitosis)
5	Relationships between qualitative genes	Cell Divisions (Meiosis )
6	Relationships between Quantitative genes	Use of molecular markers
7	Ploidy and autopolyploidies	Studies of mitosis for the germination of plants
8	Course review-Midterm Exam	Repeating courses and midterm exam
9	Allopolyploidies	Microscope examination of stages of mitosis and chromosome counts
10	Aneuploidy and addition-line	Microscope examination of stages of meiosis and chromosome counts
11	Aneuploidy and substitution lines	Microscope examination of stages of meiosis and chromosome counts
12	Gene transfer and the use in plant breeding	DNA isolation and PCR reaction
13	General information about the origin of some plants	DNA isolation and PCR reaction
14	Review-Practice exam	Practice exam

22	Textbooks, References and/or Other Materials:	-Sitogenetik, Sevim Sağsöz.Atatürk .Üni.Yayınları -Sitogenetik, Mehmet Topaktaş, Eyyüp Rencüzoğulları, Nobel Yayınları -Plant Breeding and Cytogenetics. Fred C. Elliot. Michigan state University, Mc Graw- Hill Publ. In the Agri. Sciences.  -Interspecific and intergeneric Crosses in Cultivated plants. A Belex Hungarian Academy of Sciences, Martonvasar,
----	---	---

Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		14	1.00	14.00
Practicals/Labs		14	2.00	28.00
Self study and preparation		4	2.00	8.00
Homeworks		1	6.00	6.00
Projects		0	0.00	0.00
Midterm Exam	1	40.00		
Field Studies		0	0.00	0.00
Midterm exams		1	15.00	15.00
Home work-project	0	0.00		
Others		0	0.00	0.00
Final Exams		1	20.00	20.00
Total	2	100.00		
Total Work Load				106.00
Total work load/ 30 hr				3.03
ECTS Credit of the Course				3.00

Total	100.00
-------	--------

Measurement and Evaluation Techniques Used in the Course	
--	--

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	5	3	4	4	3	1	1	1	0	0	0	0	0	0	0	0
ÖK2	5	3	5	4	4	3	1	2	0	0	0	0	0	0	0	0

ÖK3	5	4	4	4	4	3	2	2	0	0	0	0	0	0	0	0
ÖK4	5	5	5	5	5	5	3	5	0	0	0	0	0	0	0	0
ÖK5	5	4	5	5	4	4	2	4	0	0	0	0	0	0	0	0
ÖK6	5	4	5	5	4	3	2	4	0	0	0	0	0	0	0	0
ÖK7	5	5	5	5	5	4	3	5	0	0	0	0	0	0	0	0
LO: Learning Objectives    PQ: Program Qualifications																
Contribution Level:	1 very low		2 low			3 Medium			4 High			5 Very High				