PLANT TISSUE CULTURE

1	Course Title:	PLANT TISSUE CULTURE
2	Course Code:	BTKS127
3	Type of Course:	Optional
4	Level of Course:	Short Cycle
5	Year of Study:	2
6	Semester:	3
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:	Öğr. Gör. Dr. HÜSEYIN CAN ALPSOY
15	Course Lecturers:	Dr. Hüseyin Can Alpsoy
16	Contact information of the Course Coordinator:	Dr. Hüseyin Can Alpsoy
17	Website:	
18	Objective of the Course:	Giving basic information related to the use of tissue culture as a propagation method in plants.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	Being aware of the laboratory organisation in tissue culture studies
	2	Having information about the sterilisation of plant material and nutrient medium
	3	Learning how to prepare nutrient media
	4	Learning how to prepare and culture the explant
	5	Knowing about the incubation conditions
	6	Learning and applying the in vitro propagation techniques, including meristem culture which is used for obtaining virus-free plants.
	7	Having information about acclimatisation of the plants obtained via tissue culture
	8	Getting knowledge about the problems encountered in tissue culture and the ways to solve them
	9	
	10	

21	Course Content:

Course Content:

Week	Theoretical	Practice
1	The definition of tissue culture, utilisation areas and advantages	Giving general knowledge about practices
2	Laboratory organisation in tissue culture	Introducing the tissue culture laboratory with the equipments inside

3	Preparation and sterilisation of the nutrient medium	Preparing the nutrient medium in the laboratory
4	Explant preparation and culture	Culture of explants taken from some horticultural crops
5	Incubation conditions in tissue culture	Observations on the explants incubated
6	Transfer of the material, subcultures	Subculturing of the developing material in the laboratory.
7	Problems encountered in tissue culture and ways to solve them	Observations on the material subcultured
8	Acclimatisation of the plants obtained from tissue culture to field conditions	Transfer of plants to be acclimatized to greenhouse in sterilized pot substrate.
9	Application and usage areas of anther culture	Applying anther culture in some greenhouse crops
10	Application and usage areas of embryo culture	Applying embryo culture in some greenhouse crops
11	Application and usage areas of callus culture	Applying callus culture in some greenhouse crops
12	Application and usage areas of meristem culture	Applying embryo culture in some greenhouse crops
13	Fundamentals of protoplast culture	Visual presentations related to protoplast culture
14	General review and evaluation	Transfer of plants obtained from tissue culture to field or greenhouse conditions

22	Textbooks, References and/or Other Materials:	Bitki Doku Kültürleri Yöntemleri ve Uygulama Alanları, Doç.Dr.N. Gönülşen ... Bitki Biyoteknolojisi_Doku Kültürü ve Uygulamaları . M. Babaoğlu, E. Gürel, S. Özcan
23	Assesment	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	1.00	14.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	1	14.00	14.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	14.00	14.00
Others	0	0.00	0.00
Final Exams	1	20.00	20.00
Total Work Load			90.00
Total work load/ 30 hr			3.00
ECTS Credit of the Course			3.00

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	1	1	1	1	1	1	1	1	1	4	0	0	0	0	0	0
ÖK2	1	1	1	1	1	1	1	1	1	4	0	0	0	0	0	0
ÖK3	1	1	1	1	1	1	1	1	1	4	0	0	0	0	0	0
ÖK4	1	1	1	1	1	1	1	1	1	4	0	0	0	0	0	0

ÖK5	1	1	1	1	1	1	1	1	1	4	0	0	0	0	0	0
ÖK6	1	1	1	1	1	1	1	1	1	5	0	0	0	0	0	0
ÖK7	1	1	1	1	1	1	1	1	1	4	0	0	0	0	0	0
ÖK8	1	1	1	1	1	1	1	1	1	4	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**