PLANT BREEDING

1	Course Title:	PLANT BREEDING
2	Course Code:	TAR3325-Z
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	3
6	Semester:	5
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. KÖKSAL YAĞDI
15	Course Lecturers:	Doç. Dr. Esra AYDOĞAN ÇİFCİ
16	Contact information of the Course Coordinator:	kyagdi@uludag.edu.tr, 294 15 17 , Bursa Uludağ Üniversitesi, Ziraat Fakültesi, 16059, Görükle /Bursa
17	Website:	
18	Objective of the Course:	To educate engineers who knows world specific standards and manufacturing techniques for species in seed activities and be capable of take-more advanced techniques
19	Contribution of the Course to Professional Development:	Learns the techniques of breeding plant species.
20	Learning Outcomes:	

	1	To explain the concept of plant breeding
	2	To explain the biology of fertilization in plants and to apply the opportunities for manipulation
	3	To take advantage of incompatibility system
	4	To apply the use of male sterility techniques in plant breeding
	5	To use appropriate methods to develop new plant varieties in self-pollinated crops
	6	To use appropriate methods to develop new plant varieties in cross-pollinated crops
	7	Conduct studies of mutation
	8	To explain the improvement of the new varieties by using gene technology
	9	
	10	

21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Definition, importance and history of plant breeding	
2	Pollination and fertilization biology of plants	

3	Allogame and autogame plants	
4	Incompatability and benefits of plant breeding	
5	Types and genetic causes of male sterility	
6	Selection breeeding	
7	Combination breeding (Methods of pedigree, bulk and bulked progeny)	
8	Combination breeding (methods of single seed descent, back cross and convergence)	
9	Course review-Midterm Exam	
10	Introduction to hybrid breeding and the genetic basis	
11	Application of hybrid breeding	
12	Introduction to mutation breeding	
13	Mutation types and their use in plant breeding	
14	Usage possibilities of genetic engineering in plant breeding studies	

22	Textbooks, References and/or Other Materials:	-Bitki Islahı. Prof. Dr. H.R. EKİNGEN. Uludağ Üniversitesi Ders Notları.1988. -Breeding Field Crops. J.M. POEHLMAN.The Avı Publıshıng Company. Inc. Westport, Connecticut. A.B.d. 1985. -Plant Breeding System. A.V. RICHARDS. Department of Agricultural and Environmental Science. University of Newcastle upon TYNE. UK. 1997

Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	**R**	14	2.00	28.00
Practicals/Labs		0	0.00	0.00
Quiz	0	0.00		
Self study and preperation		7	5.00	35.00
Homeworks		0	0.00	0.00
Final Exam	1	60.00		
Projects		0	0.00	0.00
Field Studies		2	2.00	4.00
Contribution of Term (Year) Learning Activities to Success Grade	40.00			
Midterm exams		1	25.00	25.00
Others		0	0.00	0.00
Contribution of Final Exam to Success Grade	60.00			
Final Exams		1	30.00	30.00
Total Work Load				147.00
Total work load / 30 h				4.97
Measurement and Evaluation Techniques Used in the Course	Bursa Uludağ University is evaluated according to the principles of the Associate and Undergraduate Education			
ECTS Credit of the Course				4.00

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	5	5	5	5	5	1	4	0	0	0	0	0	0	0	0
ÖK2	5	5	5	5	5	1	1	5	0	0	0	0	0	0	0	0
ÖK3	5	5	5	5	5	1	1	5	0	0	0	0	0	0	0	0
ÖK4	5	5	5	5	5	1	1	5	0	0	0	0	0	0	0	0

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