SEED SCIENCE AND TECHNOLOGY

1	Course Title:	SEED SCIENCE AND TECHNOLOGY
2	Course Code:	BAH4116-S
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	8
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. H. Özkan SİVRİTEPE
15	Course Lecturers:	-
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi Ziraat Fakültesi Bahçe Bitkileri Bölümü Görükle Kampusu - Bursa Telefon: 224-2941474 E-posta: ozkan@uludag.edu.tr
17	Website:	
18	Objective of the Course:	• To teach students the principles of seed physiology, and to transfer knowledge about the technological applications used in the industry, • To improve their skills on seed technology with the laboratory practices, • To provide students the possibility of closely examine the seed industry with the technical excursion to one of the seed companies in the region.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	To understand the basics of the seed physiology
	2	To explain seed morphology and seed ageing, dormancy and germination physiology
	3	To interpret the effects of various technological applications used in the industry with regard to the physiological bases of seeds
	4	To apply seed testing procedures related to international standards
	5	To recognize the problems encountered in the seed industry related to seed technology and to suggest the solutions
	6	To participate in a team-work by preparing and presenting projects and assignments on seed technology and to transfer the obtained knowledge to the practice
	7	To explain the concepts related to the international seed industry
	8	To interpret the current legislation on seeds

	9	
	10	

21	Course Content:

Course Content:

Week	Theoretical	Practice
1	Giving information about the course	Establishing practice groups and sharing of duties
2	The physical structure and chemical composition of seeds	Determination of 1000 seed weight
3	The physiology of seed ageing	Determination of seed moisture content
4	Seeds dormancy	Set up of seed germination tests
5	The physiology of seed germination	Evaluation of germination tests
6	Seed viability tests	Electrical conductivity (EC) test
7	Seed vigour tests	Radicle emergence test
8	Technological treatments of the seeds - 1	Tetrazolium (TZ) test
9	Technical excursion	MayAgro Seed Company (http://www.may.com.tr)
10	Repeating courses and midterm exam	
11	Technological treatments of the seeds - 2	NaOCl test and hydration treatments
12	Technological treatments of the seeds - 3	Presentation of assignments and projects
13	General review of the course	Presentation of assignments and projects
14		

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	0	0.00	0.00
Homeworks	1	10.00	10.00
Projects	1	10.00	10.00
Field Studies	0	0.00	0.00
Midterm exams	1	2.00	2.00
Others	2	15.00	30.00
Final Exams	1	2.00	2.00
Total Work Load			96.00
Total work load/ 30 hr			3.20
ECTS Credit of the Course			3.00

22	Textbooks, References and/or Other Materials:	Black, M. and Bewley, J.D. 2000. Seed Technology and its Biological Basis. Sheffield Academic Press, England. 419 p. Copeland, L.O. and McDonald, M.B. 2001. Principles of Publishers, Massachusetts, USA. 467 p. Edition. International Seed Testing Association. Bassersdorf, Switzerland. 2012. International Seed Testing Association. Bassersdorf, McDonald, M.B. and Copeland, L.O. 1995. Seed Science and Technology Laboratory Manual. Iowa State University Pres, Ames, Iowa, USA. 231 p. Şehirali, S. 1997. Tohumluk ve Teknolojisi. Fakülteler Matbaası, İstanbul. 422 s.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	20.00
Quiz	0	0.00
Home work-project	2	20.00
Final Exam	1	60.00
Total	4	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	

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	2	2	4	1	4	1	5	1	1	3	0	0	0	0	0	0
ÖK2	2	2	4	1	4	1	5	1	1	3	0	0	0	0	0	0
ÖK3	1	5	5	1	5	1	5	1	1	3	0	0	0	0	0	0
ÖK4	1	3	1	1	1	1	5	1	1	3	0	0	0	0	0	0
ÖK5	2	5	5	1	4	1	3	1	1	3	0	0	0	0	0	0
ÖK6	1	1	1	1	5	1	4	5	1	3	0	0	0	0	0	0
ÖK7	1	2	2	1	1	1	3	2	1	3	0	0	0	0	0	0
ÖK8	1	2	2	1	1	1	3	2	1	3	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**			