INDUSTRIAL ENZYMOLOGY

1	Course Title:	INDUSTRIAL ENZYMOLOGY
2	Course Code:	BYL0512
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	0
6	Semester:	0
7	ECTS Credits Allocated:	5.00
8	Theoretical (hour/week):	3.00
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. Elif Demirkan
15	Course Lecturers:	Prof. Dr. Elif DEMİRKAN
16	Contact information of the Course Coordinator:	edemirkan@uludag.edu.tr Tel: (0224)2941794 Uludağ Üniversitesi Fen-Edebiyat Fakültesi, Biyoloji Bölümü, B Blok Görükle Kampüsü, Nilüfer/BURSA 16059
17	Website:	
18	Objective of the Course:	The purpose of the course is to teach students about technologies of industrial enzymes manufacturing and advantages of using enzyme preparations in food technology, animal nutrition and other branches of the industry.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	The ability of grip of structure-property relationships of enzymes
	2	Transfer in the related fields of Enzyme accumulation
	3	Create relationship between the technical and scientific ability with other disciplines
	4	Be aware of the multidisciplinary cooperation in the production of the enzyme
	5	Create awareness of the team
	6	Transferring to technology the subject of the enzyme
	7	Have to conscious the necessity of lifelong learning
	8	Be informed about impacts of enzymes on health and environmental
	9	
	10	

21	Course Content:

Course Content:

Week	Theoretical	Practice
1	Enzyme and properties	
2	General characteristics of technical enzymes: how enzymes work	
3	General characteristics of technical enzymes:enzyme structure and mechanism	
4	Enzyme sources: Microorganisms (Bacteria, fungi and yeast)	
5	Enzyme technology, Enzyme production methods	
6	Production of industrial enzymes by Recombinant DNA Technology	
7	Enzyme isolation, purification and charaterization	
8	Enzyme immobilization and methods	
9	Technical enzymes, and application fields	
11	Enzymes in textiles,in juice and winemaking	
13	Fungal Technology	
14	Repeating courses	
22	Textbooks, References and/or Other Materials:	1.Demirkan, Industrial Enzymology 2.ed., Notes H.Uhling, Industrial Enzymes and Their Applications, John
23	Assesment	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	2	10.00	20.00
Homeworks	2	14.00	28.00
Projects	1	15.00	15.00
Field Studies	0	0.00	0.00
Midterm Exams	1	20.00	20.00
Others	0	0.00	0.00
Final Exams	1	25.00	25.00
Total Work Load			150.00
Total work load/ 30 hr			5.00
ECTS Credit of the Course			5.00

	R	
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		

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK8	0	0	0	0	0	0	0	0	1	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							