MICROBIAL PHYSIOLOGY

1	Course Title:	MICROBIAL PHYSIOLOGY	
2	Course Code:	BIO5412	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	6.00	
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:		
16	Contact information of the Course Coordinator:	Prof. Dr. Elif DEMİRKAN Fen-Edebiyat Fakültesi, Biyoloji Bölümü, Görükle Kampüsü, 16059 Bursa (0224) 2941794 , edemirkan@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	The course will provide information about the diversity of microbial metabolisms.	
19	Contribution of the Course to Professional Development:	Since she/he has learned the basic concepts in the field of Microbial Physiology, she/he contributes to her/his professional development with her /his ability to comprehend advanced scientific subjects more easily and to learn.	
20	Learning Outcomes:		
		1	Assessing the specialistic knowledge
		2	Grasping the interdisciplinary interaction
		3	Be aware of the subjects of innovativeness
		4	The ability to Research the current and high-level knowledge in the area
		5	Developing and deepen his/her knowledge in the related program's area
		6	Transferring the current developments in the area in written, oral and visual
		7	Detecting the problems related with biology
		8	Be aware of the subjects of entrepreneurship
		9	
		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Prokaryotic and eukaryotic microorganisms	

2	Prokaryotic and eukaryotic replication, DNA, RNA, protein synthesis	
3	Prokaryotic and eukaryotic gene expression regulation	
4	Membrane structure and transport	
5	Catabolism, Biosynthesis and Fermentation	
6	Genetic adaptation	
7	Bacterial Growth	
8	Environmental effects and strategies	
9	Energy and Metabolism	
10	Phototropism (photosynthesis): phototrophic and photoheterotrophic	
11	Chemotropism (Chemosynthesis): Chemolithotrophs, chemoorganotrophs, chemolithotroph and mixotroph	
12	Chemosynthesis varieties: Hydrogen bacteria, Sulfur bacteria,Iron bacteria, Ammonium and Nitrite Bacteria	
13	Paper presentation	
14	Paper presentation	

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	11	5.00	55.00
Homeworks	12	7.00	84.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	1.00	1.00
Others	0	0.00	0.00
Success Grade	1	1.00	1.00
Total Work Load			183.00
Total work load/ 30 hr			6.10
ECTS Credit of the Course			6.00

23	Assesment	
	Midterm Exam	1 40.00
	Home work-project	0 0.00
	Total	2 100.00
	Final Exams	1
	Total	100.00
	Measurement and Evaluation Techniques Used in the Course	In the course, 1 homework is given as a midterm and 1 final exam is done. Exams are in a classical written style. Each written paper is carefully evaluated and graded.
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	4	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0

ÖK4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
ÖK6	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
ÖK7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK8	0	0	0	0	0	0	0	4	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**