ENZYMOLOGY

1	Course Title:	ENZYMOLOGY
2	Course Code:	MBG4107
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	7
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. SEZAİ TÜRKEL
15	Course Lecturers:	Prof.Dr. Sezai Türkel
16	Contact information of the Course Coordinator:	sturkel@uludag.edu.tr
17	Website:	
18	Objective of the Course:	To teach structural features of an Enzymes. To teach enzyme kinetics and reaction mechanisms of an enzymes. To teach application of an enzymes in different industrial fields.
19	Contribution of the Course to Professional Development:	Learns basic biochemsitry of enzyme and enzyme technology
20	Learning Outcomes:	

	1	Knows enzyme structure and functions
	2	Knows key features of enzyme reactions
	3	Knows enzyme classifications
	4	Knows application fields of an enzymes
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21	Course Content:

Course Content:

Week	Theoretical	Practice
1	Introduction to course and course materials, historical perspective on the development of enzymology from past to present, discussion the key inventions in the field of enzymology	
2	Biochemical features of an enzymes as proteins	
3	specificity of enzyme action, reaction coditions of seleceted enzymes	

4	Monomeric and oligomeric enzymes and its significance in enzyme catalyzed reactions	
5	Enzyme catalysis	
6	Basic definitions in enzyme kinetics, introduction to enzyme kinetics I	
7	Enzyme kinetics II	
8	Control mechanisms of an enzyme activities, coenzymes and cofactors	
9	Enzyme inhibition, substrate analogs	
10	Metabolic significance of allosteric enzymes	
11	Industrial enzymes I	
12	Industrial enzymes II	
13	Application of enzymes in pharmaceutical fields	
14	Reviwe of course contents, discussion of student projects	

22	Textbooks, References and/or Other Materials:	1- Lecture notes from Prof.Dr. Sezai Türkel 2- Enzymes, Biochemistry, Biotechnology, clinical Chemistry. Authors: Trevor Palmer, Philip Bonner. 3- Biochemistry, G. Zubay

Activites		Number	Duration (hour)	Total Work Load (hour)
TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**		
Theoretical		14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self-study and preperation	0	0.00	7.00	98.00
Homeworks		0	0.00	0.00
Projects		0	0.00	0.00
Field Studies		0	0.00	0.00
Others		0	0.00	0.00
Total Work Load				195.00
ECTS Credit of the Course				6.00

Midterm Exam	1	40.00	1.00	1.00
Quiz	0	0.00	0.00	0.00
Final Exam	1	60.00	1.00	1.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00	15.00	15.00
Contribution of Final Exam to Success Grade		60.00	25.00	25.00
Total work load/ 30hr				6.00
Measurement and Evaluation Techniques Used in the		Midterm and final exam scores determines the final grade		

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	1	1	1	3	5	1	1	5	4	5	0	0	0	0	0	0
ÖK2	2	3	2	2	5	1	1	1	5	5	0	0	0	0	0	0
ÖK3	3	1	2	3	5	2	2	5	4	5	0	0	0	0	0	0
ÖK4	1	2	2	2	5	3	3	5	5	5	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**