



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Enzymology							
Course Code		TBY305		Course Level		First Cycle (Bachelor's Degree)			
ECTS Credit	3	Workload	79 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		Giving general information about enzymes , making them aware of the latest developments on the production and purification of enzymes is to inform about methods to obtain enzymes with different properties							
Course Content		İntroduction of enzyme and historical uses of enzymes. Production and prufication of industrial enzymes							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Problem Solving					
Name of Lecturer(s)		Lec. Zehra Burcu BAKIR							

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	40
Assignment	1	20

### Recommended or Required Reading

1	Kulkarni, N.S. Deshpande, M.S., 2007 : General Enzymology, Global Media, IND
2	Telefoncu, A, 1997: Enzimoloji, Türkiye
3	Nelson, D.L., Cox, M.M., 2013: Lehninger Principles of Biochemistry, Palme Publishing
4	Engel P.C., 1996: Enzymology, Academic Press
5	Suckling C.J., Gibson C.L., Pitt A.R., 1998: Enzyme Chemistry Impact and Applications, Blackie Academic and Professional
6	Copeland R.A., 2000: Enzymes: A practical introduction to structure, mechanism and data analysis, WILEY-VCH

Week	Weekly Detailed Course Contents	
1	Theoretical	Biology of enzymes and historical uses of enzymes
2	Theoretical	The terms used in enzymology
3	Theoretical	The classification and nomenclature of enzymes
4	Theoretical	Control of enzyme activities
5	Theoretical	Enzyme kinetics
6	Theoretical	Enzyme sources: Microorganisms (Bacteria, fungi and yeast)
7	Theoretical	Enzyme technology, Enzyme production methods
8	Theoretical	Production of industrial enzymes by Recombinant DNA Technology
9	Intermediate Exam	Midterm exam
10	Theoretical	Enzyme isolation, purification and characterization
11	Theoretical	Enzyme isolation, purification and characterization
12	Theoretical	Enzyme immobilization
13	Theoretical	Enzymes in food industry
14	Theoretical	Enzymes obtained from extreme environmental
15	Final Exam	Final exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	2	70
Assignment	1	3	0	3
Midterm Examination	1	2	1	3



Final Examination	1	2	1	3
Total Workload (Hours)				79
[Total Workload (Hours) / 25*] = ECTS				3
*25 hour workload is accepted as 1 ECTS				

### Learning Outcomes

1	Learn the structure and classification of enzymes
2	Learns the functioning of enzymes in living systems
3	Learns the methods of determining enzyme activity
4	Learn the production, purification and characterization of enzymes
5	Learn industrial production methods of enzymes

### Programme Outcomes (Dairy Technology)

1	Having sufficient infrastructure in basic sciences and engineering subjects and ability to use the theoretical and applied info instantly in this field.
2	Determining the modern techniques, tools and information technologies required for applications related with his field and ability to use them efficiently
3	Ability for planning, projecting, and designing, following up, analyzing and finding target-driven solutions related with his field
4	Ability to have professional ethic and awareness.
5	Ability to work, decide, express opinions orally and in written individually
6	Ability to participate team studies, taking responsibility, making leadership.
7	Ability to conceive Atatürk's principles and reforms, to communicate in Turkish and foreign language.
8	Ability to comprehend the necessity to learn for a life time, to monitor developments in science and technology and continuously renew himself.
9	Having sufficient level of information about production and quality control of milk and dairy products and also product development, increasing product quality and food security fields.
10	Ability to detect, define, solve problems related with his field and to select and apply suitable methods and modeling techniques for this purpose.
11	To be conscious about workplace applications, worker health, work security and environment subjects, to have knowledge about legal results of the engineering applications related with his subject.

### Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P8	4	4	4	4	4
P9	4	4	4	4	4

