AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Food Enzimology								
Course Code	VBH640		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	2	Workload	50 *(Hours)*	Theory	1	Practice	0	Laboratory	0
Objectives of the Course	To teach the importance of enzymes used in food industry, their usage and their mechanisms.								
Course Content	The historical development of enzymology, the difference between enzyms and catalisors in foof industry, placement of enzymes in the live cells, chemical structure of enzymes, enzyme kinetix and factors affecting enzyme kinetix (pH, substrat concentration, enzyme concentration, temperature, concentration of activator/inhibitor substances), temperature control in spoilage caused by enzymatic reactions, usage of enzymes in food industry, recombinant enzyme technology, genetical modification in enzymes used in food production)								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion								
Name of Lecturer(s)	Prof. Filiz KÖK								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Gıda Kimyası: İ. Saldamlı (ed.) Hacettepe Ü.
2	Gıda Kimyası: M. Demirci, Namık Kemal Ü.
3	Enzim Bilimi: T. Palmer, İstanbul Ü.
4	Enzimoloji Ders Notları: A. Özata, Anadolu Ü.
5	Enzim Teknolojisinde Temel Konular ve Uygulamalar: MAM, Tübitak
6	Enzymes in Food Processing: G.A. Tucker, L.F.J. Woods

Week	Weekly Detailed Course Contents	
1	Theoretical	Description of enzymes and the historical background of enzymology
2	Theoretical	Classification of enzymes
3	Theoretical	Enzyme kinetics and factors (pH, substrat concentration, enzyme concentration, temperature, concentration of activator/inhibitor substances) affecting enzyme kinetics
4	Theoretical	Enzyme kinetics and factors (pH, substrat concentration, enzyme concentration, temperature, concentration of activator/inhibitor substances) affecting enzyme kinetics
5	Theoretical	Commercial enzyme production and enzyme isolation
6	Theoretical	The use of enzymes in food industry, enzyme purification
7	Theoretical	Recombinant enzyme technology and genetical modification in enzymes used in food production
8	Intermediate Exam	Midterm
9	Theoretical	Enzymes in starch and sugar industry
10	Theoretical	Enzymes in bakery
11	Theoretical	Enzymes in meat industry
12	Theoretical	Enzymes in dairy industry
13	Theoretical	Enzymes in monitoring milk quality
14	Theoretical	Enzymes in fat/oil industry
15	Theoretical	Discussion

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	1	14

Assignment	4	0	1	4
Reading	6	0	1	6
Midterm Examination	1	10	1	11
Final Examination	1	14	1	15
			Total Workload (Hours)	50
			[Total Workload (Hours) / 25*] = **ECTS**	2
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Students know the chemical structure of enzymes
2	Know classification and systematic of enzymes.
3	Know kinetix and speed of enzymes and the effects of several factors on these .
4	Have sufficient knowledge about isolation and purification of enzymes and their use in food industry
5	Have detailed information on the use of enzymes in dairy industry
6	Have detailed information on the use of enzymes in meat industry
7	Have detailed information on the use of enzymes in fat/oil industry

Programme Outcomes *(Food Hygiene and Technology (Veterinary Medicine) Doctorate)*	
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Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5	L6	L7
P1	5	5	5	5	5	5	5
P2	3	3	3	3	3	3	3
P3	4	4	4	4	4	4	4
P4	5	5	5	5	5	5	5
P6	5	5	5	5	5	5	5
P7	5	5	5	5	5	5	5
P8	4	4	4	4	4	4	4
P10	5	5	5	5	5	5	5
P12	4	4	4	4	4	4	4