AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Enzyme Determination Methods								
Course Code	VBY654		Couse Level		Third Cycle (Doctorate Degree)				
ECTS Credit	3	Workload	75 *(Hours)*	Theory	1	Practice	2	Laboratory	0
Objectives of the Course	Purification and identifications of enzymes by chromatographic methods; kinetic calculations								
Course Content	Purification and identifications of enzymes by chromatographic methods; kinetic calculations								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	30
Final Examination	1	60
Quiz	2	3
Assignment	2	2
Laboratory	1	5

Recommended or Required Reading	
1	1. Lippincott’s Illustrated Reviews Biyokimya Seri Editörleri Richard A HARVEY, Pamela C. CHAMPE Biyokimya Çeviri Editörü Doç.Dr. Engin ULUKAYA, Nobel Tıp Kitabevleri 2007
2	Lehninger Biyokimyanın İlkeleri. David L. Nelson Michael M. COX. Çeviri Editörü Prof.Dr. Nedret KILIÇ, Palme Yayıncılık
3	Harper Biyokimya Robert K. Murray, Daryl K. Granner, Peter A. Mayes, Victor W. Rodwell. Çeviri Editörleri: Nurten DİKMEN, Tuncay ÖZGÜNEN. Nobel Tıp Kitabevleri

Week	Weekly Detailed Course Contents	
1	Theoretical	Structures and functions of enzymes
	Practice	Selection of material in the investigate properties of the enzyme
2	Theoretical	Selection of material in the investigate properties of the enzyme
	Practice	Enzyme determination
3	Theoretical	Extraction and purification enzymes
	Practice	Enzyme purification
4	Theoretical	Extraction and purification enzymes
	Practice	Enzim saflaştırılması
5	Theoretical	Determination of enzymes molecule weight
	Practice	Enzyme purification
6	Theoretical	Principles of enzyme analysis
	Practice	Enzyme purification
7	Intermediate Exam	Midterm exam
8	Theoretical	Instruments using enzyme analysis
	Practice	End-point enzyme anaysis
9	Theoretical	Automation of enzyme analysis
	Practice	Kinetic assays
10	Theoretical	Enzymes while analytic reactive
	Practice	Immunoassay methods
11	Theoretical	Enzymes analysis in medicine and endustry
	Practice	Enzyme histochemistry
12	Theoretical	Biotecnological applications of enzymes
	Practice	Investigation of enzymes in subsellular structures
13	Theoretical	Biotecnological applications of enzymes
	Practice	Storage of enzymes and koenzymes

14	Theoretical	Student presentations
15	Theoretical	Student presentations
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	15	0	1	15
Assignment	2	3	0.5	7
Laboratory	15	0	2	30
Quiz	2	2	0.5	5
Midterm Examination	1	6	1	7
Final Examination	1	10	1	11
			Total Workload (Hours)	75
			[Total Workload (Hours) / 25*] = **ECTS**	3

**25 hour workload is accepted as 1 ECTS*

Learning Outcomes

1	to learn laboratory processing
2	to learn enzym assay’s methods
3	to learn enzym purification
4	To have knowledge about the biotechnological applications of enzymes
5	To have information about enzymes and recombinant DNA technology

Programme Outcomes *(Biochemistry (Veterinary Medicine) Doctorate)*

1	Has a deep and broad knowledge about the field and the interdisciplinary area related with the field through the achievements gained in undergraduate and professional levels.
2	Has the knowledge to create original ideas, analyze them and develop definition/product/diagnosis methods by using the knowledge gained in undergraduate and/or professional experience, when needed.
3	Is knowledgeable about theories and practices in methodological and scientific research methods to run an independent research.
4	Excels in the laboratory, clinical and similar fields by using the theoretical and practical information gained in former education, and has the ability to create solutions in related fields.
5	Designs and develops scientific methodology for the advanced level/newly defined/emerged problems about the field.
6	Excels in the known scientific methods in the field for the advanced level/ newly defined/emerged problems.
7	Designs unique researches and implements independently.
8	Analyzes, synthesizes and evaluates the new ideas in related fields by using critical thinking.
9	Plans, creates teams and carries out the interdisciplinary research projects in order to create solutions to the known/newly defined problems.
10	Joins to congresses, panels, symposiums, workshops, seminars, article discussions and problem solving sessions in different disciplines, and exchanges information with the other professionals to contribute to the solutions.
11	Broadens the borders of scientific information by publishing scientific articles in national and/or international peer-reviewed journals.
12	Creates new ideas and methods to contribute to the technological, social and cultural progress, or to help the development of information society by using the theoretical, practical, independent research, abilities responsibly.
13	Designs and implements social projects with the awareness of creating an information society.
14	Compiles and interprets any type of data (field observation, scientific knowledge etc.) in accordance with the aims.
15	Develops and uses strategies about related topics with the field.
16	Implements and defends institutional and practical information and abilities in accordance with the needs of the country and the world, and changes when necessary.
17	Follows up and uses all the updates about the field (scientific information, legislations etc.), and has the qualification to change them.
18	Adopts lifelong learning as a principle and acknowledges that the information gained through research is the most valuable gain.

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

	L1	L2	L3	L4	L5
P1	3			3	3
P2	4			4	4

P3	3			3	3
P4		3	3		
P5			3		
P8	3				
P10			4	4	4
P12	4	3		4	4
P15	4				
P17	4			4	4
P18		4		4	4