AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Enzyme Kinetics								
Course Code	BİO608		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	7	Workload	177 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	Aims to understand the mechanisms of enzyme catalysis								
Course Content	Catalytic mechanisms of enzymes, enzyme kinetics and mechanisms								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Demonstration, Discussion, Case Study, Individual Study, Problem Solving								
Name of Lecturer(s)	Prof. Kubilay METİN								

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

Recommended or Required Reading	
1	Biyokimyanın Prensipleri (Lehninger), David L. Nelson & Michael M. Cox ; Nedret Kılıç, Palme Yayıncılık,2005
2	Biyokimya I, II, Engin Gözükara, Nobel Tıp Kitabevi, İstanbul, 1997

Week	Weekly Detailed Course Contents	
1	Theoretical	Structure and function of enzymes and proteins
	Preparation Work	Structure and function of enzymes and proteins
2	Theoretical	Specificity of enzyme action
	Preparation Work	Specificity of enzyme action
3	Theoretical	Monomeric and oligomeric enzymes
	Preparation Work	Monomeric and oligomeric enzymes
4	Theoretical	Introduction to bioenergetics, catalysis and kinetics
	Preparation Work	Introduction to bioenergetics, catalysis and kinetics
5	Theoretical	Kinetics of single-substrate enzyme-catalysed reactions
	Preparation Work	Kinetics of single-substrate enzyme-catalysed reactions
6	Theoretical	Enzyme inhibitions
	Preparation Work	Enzyme inhibitions
7	Theoretical	Kinetics of multi-substrate enzyme-catalysed reactions
	Preparation Work	Kinetics of multi-substrate enzyme-catalysed reactions
8	Intermediate Exam	Mid exam
9	Theoretical	The investigation of active side structure
	Preparation Work	The investigation of active side structure
10	Theoretical	The chemical nature of enzyme catalysis
	Preparation Work	The chemical nature of enzyme catalysis
11	Theoretical	The binding of ligands to proteins
	Preparation Work	The binding of ligands to proteins
12	Theoretical	Sigmoidal kinetics and allosteric enzymes
	Preparation Work	Sigmoidal kinetics and allosteric enzymes
13	Theoretical	Investigation of enzymes in biological preparations
	Preparation Work	Investigation of enzymes in biological preparations
14	Theoretical	Extraction and purification of enzymes
	Preparation Work	Extraction and purification of enzymes
15	Final Exam	Final Exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	15	2	2	60
Lecture - Practice	15	0	2	30
Assignment	7	5	0	35
Laboratory	6	0	5	30
Reading	5	0	2	10
Quiz	4	0	2	8
Midterm Examination	1	0	2	2
Final Examination	1	0	2	2
			Total Workload (Hours)	177
			[Total Workload (Hours) / 25*] = **ECTS**	7
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Kinetics of enzymes
2	Enzyme mechanisms
3	Mechanisms affecting enzyme activity
4	Enzyme inhibition
5	

Programme Outcomes *(Biochemistry (Medical) Doctorate)*	
1	To have basic theoretical knowledge about biochemistry and to help understanding biochemistry
2	To have the basic laboratory knowledge, apparatus and methods used in biochemistry
3	Analysis: To be able to analyze information critically
4	Synthesis: To be able to synthesize and adapt the knowledge in the field from different directions
5	Evaluation: To critically evaluate research in the field