

1. Course Description

COURSE DESCRIPTION FORM			
Course Code and Title	KM337 INTRODUCTION TO BIOCHEMISTRY		
Course Semester	5		
Catalog Description (Content) of the Course	Biochemical engineering, Biotechnology, teaching basic biochemical information to the chemical engineers who can work in food sector.		
Main Textbook	Principles of Biochemistry, H. Robert Horton, Laurance A. Moran, Raymond S. Ochs, J. David Rawn, K. Gray, second Edition , Prentice Hall, 1996.H.		
Supporting Textbooks	-		
Course Credit (ECTS)	3		
Prerequisites of the Course (Compulsory attendance should be indicated here.)	There is no prerequisite or co-requisite for this course.		
Type of the Course	Elective		
Instruction Language of the Course	Turkish		
Object and Target of the Course	Biochemical engineering, Biotechnology, teaching basic biochemical information to the chemical engineers who can work in food sector.		
Learning Outcomes of the Course	<ul style="list-style-type: none"> • Ability to work efficiently in intra-disciplinary teams • Ability to work individually. • Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language. 		
Mode of Delivery	Explaining, Question-Answer, Practice - Exercise		
Weekly Schedule of the Course	1. Week Introduction to biochemistry 2. Week Structures of biomolecules 3. Week Carbohydrates 4. Week Amino acids 5. Week Proteins 6. Week Lipids 7. Week Lipids 8. Week Nucleic acids 9. Week Enzymes 10. Week Enzyme cofactor, vitamins and inhibitors 11. Week Enzyme – substrate interactions 12. Week Enzyme kinetics 13. Week Coenzymes 14. Week Project presentations		
Educative Activities <i>(Credit will be determined based on the time given for these activities. Should be filled carefully.)</i>	Theoretical Study Hours of Course Per Week Preparing Presentation Presentation Mid-Term and Studying for Mid-Term Final and Studying for Final		
Assessment Criteria		Quantity	Total Contribution (%)
	Midterm	2	40
	Homework	3	10
	Assignment	0	0
	Projects	1	10

Workload of the Course	Activity	Total Week Count	Weekly Duration (in hour)	Total Workload in Semester			
	Theoretical Study Hours of Course Per Week	15	3	45			
	Practicing Hours of Course Per Week						
	Reading						
	Searching in Internet and Library						
	Designing and Applying Materials						
	Preparing Reports						
	Preparing Presentation	3	2	6			
	Presentation	5	3	15			
	Mid-Term and Studying for Mid-Term	2	2	4			
	Final and Studying for Final	2	2	4			
	Other			0			
	Total work load			74			
	Total work load/25			2.96			
ECTS of the course			3				
Course's Contribution To Program	No	Program Çıktıları	1	2	3	4	5
	1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.	X				
	2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.	X				
	3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose. (Realistic constraints and conditions may include factors such as economic and environmental issues, sustainability, manufacturability, ethics, health, safety issues, and social and political issues, according to the nature of the design.)	X				
	4	Ability to devise, select, and use modern techniques and tools needed for engineering practice; ability to employ information technologies effectively.	X				
	5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating engineering problems.	X				
	6	Ability to work efficiently in intra-disciplinary teams.				X	
	7	Ability to work efficiently in multi-disciplinary teams.			X		
	8	Ability to work individually.				X	
	9	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.				X	
	10	Prepare design and production reports, give and receive clear and intelligible instructions.	X				

	11	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.			X			
	12	Awareness of professional and ethical responsibility.		X				
	13	Information about business life practices such as project management, risk management, and change management.	X					
	14	Information about awareness of entrepreneurship, innovation, and sustainable development.	X					
	15	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.			X			
	16	Knowledge about awareness of the legal consequences of engineering solutions.	X					
	17	Knowledge on standards used in engineering practice.	X					
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