

AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Equipments Used in Laboratory and Methods							
Course Code		VBY529		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	4	Workload	99 (Hours)	Theory	1	1 Practice 2		Laboratory	0
Objectives of the Course		Biochemistry laboratory equipment and methods used to introduce and about them to make applications.							
Course Content		Biochemical methods, pre-treatment for biological materials, Spectrometry, AAS, flame photometry, fluorometry, RIA, ELISA, HPLC, thin layer chromatography,, GC, GC-MS, lectin affinity chromatography, Introduction of ICP-AES and ICP-MS methods and make to applications in laboratories.							
Work Placement		N/A							
Planned Learning Activities		and Teaching Methods Explanation (Presentation), Experiment, Individual Study							
Name of Lecturer(s)		Prof. Ayşegül	BİLDİK						

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Final Examination	1	100

Recommended or Required Reading

1	Karagül H., Altıntaş A., Fidancı U.R., Sel T.(2000) Klinik Biyokimya. Medisan Yayınevi ANKARA
2	Kaplan L.A, Pesce A.J, KAzmierczak S.C. Clinical chemistry. Mosby. U.S.A.

Week	Weekly Detailed Cou	tailed Course Contents					
1	Theoretical	Biochemical classification of methods					
	Practice	Rules need to be aware of when using devices					
2	Theoretical	Süzme, santrfüj, diyaliz uygulamaları					
	Practice	Filtration, centrifugation, dialysis applications					
3	Theoretical	Spectrophotometry					
	Practice	Adsorption, and microdiffusion applications					
4	Theoretical	Atomic absorption Spectrophotometry (AAS)					
	Practice	Enzymatic analysis in spectrophotometer					
5	Theoretical	Flame photometry					
	Practice	Colorimetric analysis in spectrophotometer					
6	Theoretical	Fluorometry					
	Practice	Video display for AAS					
7	Practice	Video display for RIA					
8	Theoretical	Midterm exam					
9	Theoretical	ELISA					
	Practice	Hormones analysis with ELISA					
10	Practice	Video display for HPLC					
11	Theoretical	Thin-layer chromatography					
	Practice	Thin-layer chromatography applications					
12	Theoretical	Gas chromatography (GC)					
	Practice	Evalution of chromatographic methods					
13	Theoretical	Gas chromatography (GC)- mass spectrometry (GC-MS)					
	Practice	Introduction of GC-MS					
14	Theoretical	Lectin affinity chromatography					
	Practice	Lectin affinity chromatography applications					

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload	
Lecture - Theory	14	1	1	28	
Lecture - Practice	14	2	2	56	



Quiz	1		1	0.5	1.5	
Midterm Examination	1		7	1	8	
Final Examination	1		5	1	6	
Total Workload (Hours)				99		
[Total Workload (Hours) / 25*] = ECTS			4			
*25 hour workload is accepted as 1 ECTS						

Learning Outcomes

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1	To be able to comprehend and apply the preparatory pre-processing for the biological materials.	
2	To be able to recognize the devices used in the laboratory of Biochemistry	
3	Have knowledge about chromatographic systems	
4	To learn about the working principles of the devices and to learn the points to be considered in practice	
5	To be able to evaluate the advantages and disadvantages of different devices and methods	

Progra	amme Outcomes (Biochemistry (Veterinary Medicine) Master)
1	To be able to tell and describe the interdisciplinary interaction with the associated fields.
2	To be able to express original ideas useing his/her higher education knowledge theoretically and practically information and to be able to creat original definations, products, methods improving and questioning these ideas.
3	To be able to manage a free research according to scientifical and metodological methods and be able to hypothetically and practically about his/her own field.
4	To be able to compose and interpret the information from different disciplines, and create solution suggestions and scientific information which can contribute to the solution process.
5	To be able to involves in professional organizations and institutions related with the educational background.
6	To be able to take responsibility for individual and group work, and do the assignments in line with the skills.
7	To be able to communicate with the professionals out of the field when it is necessary, and contribute to the solution as a team member.
8	To be able to tell about the production and publishing methods of scientific information.
9	To be able to design the source and the type of information that is needed related with the field and chooses the activities that s/he wants to participate, by using his/her critical thinking abilities that is developed in the education.
10	To be able to use technological devices both for professional and social purposes.
11	To be able to compose and interpret any kind of data related with the field (field observations, produced scientific information etc.) and analyzes and interprets the results according to the aims of the research.
12	To be able to define the environmental health rules and apply them for prevention.
13	To be able to apply the knowledge gained in professional level with the awareness of the needs of the region and the country, and develop a defense capability.
14	To be able to conceptualize the phenomena and the events related with the field; study scientific methods and techniques, interpret results; analyze and hypothesize methods in accordance with the results and design solution or treatment alternatives addressing the problems.
15	To be able to interpret the updates of information in the field by using all kinds of sources (scientific information, legislations etc.), and use when needed.

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

	L1	L2	L3	L4	L5
P2	5				
P3	5				
P4	5	5			
P7		5			
P8	5				
P10		5			
P11	5				
P14			4	4	4

