



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Spectroscopic Methods							
Course Code		VBY647		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	3	Workload	75 (Hours)	Theory	1	Practice	2	Laboratory	0
Objectives of the Course		Photometric instruments and working principle of spectrophotometry, atomic absorbtion and their applications.							
Course Content		Photometric instruments and working principle of spectrophotometry, atomic absorbtion and their applications.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Discussion, Individual Study					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

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	Photometric Instruments
	Practice	Photometric analyses
2	Theoretical	Colorimeter and spectrophotometer
	Practice	Photometric analyses
3	Theoretical	Transmittance and absorbance
	Practice	Photometric analyses
4	Theoretical	Molar absorptivity
	Practice	Photometric analyses
5	Theoretical	Lambert-Beer
	Practice	Photometric analyses
6	Theoretical	Important subjects in spectrophotometric studies
	Practice	Photometric analyses
7	Theoretical	Spectrophotometric cuvettes
	Practice	Photometric analyses
8	Intermediate Exam	Midterm exam
9	Theoretical	Flame photometer
	Practice	Photometric analyses
10	Theoretical	Flame photometer
	Practice	Photometric analyses
11	Theoretical	Atomic absorption
	Practice	Photometric analyses
12	Theoretical	Atomic emission and absorption
	Practice	Photometric analyses
13	Theoretical	Source of error
	Practice	Photometric analyses
14	Theoretical	Sample preparation for atomic absorption
	Practice	Photometric analyses



15	Theoretical	Cocclusion
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	15	0	1	15
Lecture - Practice	15	0	2	30
Reading	15	0	1	15
Midterm Examination	1	5	1	6
Final Examination	1	8	1	9
Total Workload (Hours)				75
[Total Workload (Hours) / 25*] = ECTS				3

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To learn laboratory working system
2	To learn the rules when doing spectroscopic analyses
3	To learn rutin analyse methods
4	To learn using commercial test kits
5	To have knowledge about colorimetric methods

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	5				5
P2	5				5
P3	5				
P4		5			



P5		5	5		5
P8	5				
P12	5	5			5
P14				5	5
P15	5				
P17	5				
P18		5			5

