



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Basic Laboratory Calculations							
Course Code		VBY521		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	4	Workload	100 (<i>Hours</i>)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		To teach basic laboratory calculations							
Course Content		International measuring system, to conversion of measuring units, molar and normal solutions, gravimetric and volumetric methods, colorimetric and photometric analyses							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)		Prof. Funda KIRAL							

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Adamson, A.W., Gast, A.P. (1999) Physical Chemistry of Surfaces, John Wiley & Sons, New York.
2	İrez G., Özler, M.A. (2002) Laboratuvar Tekniği, Muğla Üniversitesi, Muğla.

Week	Weekly Detailed Course Contents	
2	Theoretical	Volumetric measurements
3	Theoretical	Solutions and concentration units, percentage calculations solution
4	Theoretical	Dilution calculations and the effect of concentrations of water of hydration
5	Intermediate Exam	Midterm exam
6	Theoretical	Normality and molarity calculations
7	Theoretical	Preparation of standard solutions and calibration curve
8	Intermediate Exam	Midterm exam
9	Theoretical	Titrimetric measurements, pH measurement, pH indicators, and the limits
10	Theoretical	Gravimetric, volumetric methods
11	Theoretical	Colorimetric methods
12	Theoretical	Cleaning of laboratory equipment
13	Theoretical	Laboratory safety
14	Theoretical	Storage and transport of chemicals
15	Theoretical	Radioactivity
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	15	2	2	60
Term Project	4	2	1	12
Reading	12	1	0	12
Quiz	2	1	1	4
Midterm Examination	1	4	1	5
Final Examination	1	5	2	7
Total Workload (Hours)				100
[Total Workload (Hours) / 25*] = ECTS				4

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To be able to comprehend the international units
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2	To be able to convert the international units
3	To be able to prepare molar and normal solutions
4	To be able to comprehend gravimetric and volumetric methods
5	To be able to prepare different pH solutions
6	To be able to comprehend the principles of colorimetric and photometric analyses

Programme 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 using his/her higher education knowledge theoretically and practically information and to be able to create original definitions, products, methods improving and questioning these ideas.
3	To be able to manage a free research according to scientific and methodological 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 involve 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
P1	5	5	5	5	5
P2	5	5	5	5	5
P8		5			

