



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Basic Analytical Chemistry							
Course Code		KMY171		Course Level		First Cycle (Bachelor's Degree)			
ECTS Credit	6	Workload	149 ( <i>Hours</i> )	Theory	4	Practice	0	Laboratory	0
Objectives of the Course		To teach the basic analytical chemistry concepts to chemistry students, gravimetric and volumetric analysis methods to gain information about and applications							
Course Content		Definitions, classification, scope, solutions and concentration expressions, acids and bases, the concept of pH and poh, chemical equilibrium, balance statements, balance calculations, buffer solutions, crash and Resolution, Resolution calculations							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, Discussion, Case Study, Project Based Study, Individual Study, Problem Solving					
Name of Lecturer(s)		Prof. İlnur BABAHAN BİRCAN							

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	70
Quiz	4	10
Assignment	4	10

### Recommended or Required Reading

1	Analitik Kimya-Temel İlkeler, 8.Baskı; D. A. Skoog ; D. M. West; F.J. Holler; S.R. Crouch. Thomson Pub.(2004); (Çeviri Editörleri: E.Kılıç ve H. Yılmaz- Bilim Yayıncılık-Ankara)
2	Analitik kimya, D.C. Haris, W.H. Freeman and Company, US, (1982), (Çeviri Editörü; G. Somer- Gazi Büro Kitabevi-1994)

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to Analytical Chemistry
2	Theoretical	Errors in Chemical Analysis
3	Theoretical	Statistical Data Processing and Evaluation
4	Theoretical	Gravimetric Analysis Methods
5	Theoretical	Gravimetric Analysis Methods
6	Theoretical	Volumetric Analysis Methods
7	Theoretical	Midterm
8	Theoretical	Volumetric Analysis Methods
9	Theoretical	Composition of Aqueous Solutions and Chemical Equilibrium
10	Theoretical	Composition of Aqueous Solutions and Chemical Equilibrium
11	Theoretical	Effect of Electrolytes on Ionic Equilibrium
12	Theoretical	Effect of Electrolytes on Ionic Equilibrium
13	Theoretical	Application of Multiple Equilibrium of Equilibrium Calculations
14	Theoretical	Systematic Method for Solving Multi-Equilibrium Problems
15	Theoretical	Resolution systematic method Calculations
16	Theoretical	Final exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	4	56
Assignment	4	0	3	12
Individual Work	1	0	42	42
Quiz	4	1	0.5	6
Midterm Examination	1	12	2	14



Final Examination	1	16	3	19
Total Workload (Hours)				149
[Total Workload (Hours) / 25*] = ECTS				6
*25 hour workload is accepted as 1 ECTS				

### Learning Outcomes

1	To understand the role of the working areas of analytical chemistry and science
2	To understand the qualitative and quantitative analysis methods.
3	To understand the source of bugs and errors in chemical analysis.
4	To understand the statistical examination of data and evaluation.
5	To understand the basics of gravimetric analysis.
6	to solve the gravimetric analysis problems.
7	To understand the basics of volumetric analysis.
8	to solve volumetric analysis problems.
9	To understand the balance system.

### Programme Outcomes (Dairy Technology)

1	Having sufficient infrastructure in basic sciences and engineering subjects and ability to use the theoretical and applied info instantly in this field.
2	Determining the modern techniques, tools and information technologies required for applications related with his field and ability to use them efficiently
3	Ability for planning, projecting, and designing, following up, analyzing and finding target-driven solutions related with his field
4	Ability to have professional ethic and awareness.
5	Ability to work, decide, express opinions orally and in written individually
6	Ability to participate team studies, taking responsibility, making leadership.
7	Ability to conceive Atatürk's principles and reforms, to communicate in Turkish and foreign language.
8	Ability to comprehend the necessity to learn for a life time, to monitor developments in science and technology and continuously renew himself.
9	Having sufficient level of information about production and quality control of milk and dairy products and also product development, increasing product quality and food security fields.
10	Ability to detect, define, solve problems related with his field and to select and apply suitable methods and modeling techniques for this purpose.
11	To be conscious about workplace applications, worker health, work security and environment subjects, to have knowledge about legal results of the engineering applications related with his subject.

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

	L1	L2	L3	L4	L5	L6	L7	L8	L9
P1	4	4	4	4	4	4	4	4	4

