



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Evaluation of Analysis Results							
Course Code		LBT236		Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	2	Workload	50 (Hours)	Theory	1	Practice	1	Laboratory	0
Objectives of the Course		To comprehend the importance of statistical evaluation of the results obtained in laboratory studies, to be able to interpret the results of the analysis and to be able to make conformity assessments in any regulation or standard.							
Course Content		Accuracy, Accuracy, Errors in Analytical Calculations, Accurate Value, Standard Deviation, Non-Avoidable Errors, Least Squares Method, Calibration Curve Compatibility Control, Significant Numbers, Rounding of Analytical Results, Reporting of Analytical Results, Evaluation and Interpretation of the Results Based on Regulations							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Discussion, Individual Study					
Name of Lecturer(s)		Ins. Burcu KESER							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading

1	Skoog, D.A., West D.M., Holler, F.J (çeviri. Kılıç, E, Köseoğlu, F.) (1996)
2	Kimyacılar için istatistik, Ankara: Gazi Kitabevi.
3	Analitik Kimya Temelleri, 7. Baskı. Ankara: Bilim Yayıncılık. Gündüz T. (1998).
4	Çeşitli Yönetmelik, Komisyon kararları ve standartlar

Week	Weekly Detailed Course Contents	
1	Theoretical	Basic Statistics
	Practice	Basic Statistics
2	Theoretical	Errors in analytical calculations, calculate of standart deviation and LOD, LOQ)
	Practice	Errors in analytical calculations, calculate of standart deviation and LOD, LOQ)
3	Theoretical	Systematic error, Random error, Detection of error sources
	Practice	Systematic error, Random error, Detection of error sources
4	Theoretical	Significant numbers, Rounding of analytical results,
	Practice	Significant numbers, Rounding of analytical results,
5	Theoretical	Confidence interval and confidence levels
	Practice	Confidence interval and confidence levels
6	Theoretical	Preparation of calibration curve and control
	Practice	Preparation of calibration curve and control
7	Theoretical	Precision, accuracy and recovery
	Practice	Precision, accuracy and recovery
8	Intermediate Exam	Midterm
9	Theoretical	Precision, accuracy and recovery
	Practice	Precision, accuracy and recovery
10	Theoretical	Evaluation of analytical results (z-test, t-test, F-test, Q-test, Annova)
	Practice	Evaluation of analytical results (z-test, t-test, F-test, Q-test, Annova)
11	Theoretical	Evaluation of analytical results (z-test, t-test, F-test, Q-test, Annova)
	Practice	Evaluation of analytical results (z-test, t-test, F-test, Q-test, Annova)
12	Theoretical	Reporting of analysis results,
	Practice	Reporting of analysis results,
13	Theoretical	Conformity assessment of the results obtained on the basis of regulations
	Practice	Conformity assessment of the results obtained on the basis of regulations



14	Theoretical	Conformity assessment of the results obtained on the basis of regulations
	Practice	Conformity assessment of the results obtained on the basis of regulations
15	Theoretical	Interpretation of obtained the results
	Practice	Interpretation of obtained the results
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	1	14
Lecture - Practice	14	0	1	14
Midterm Examination	1	10	1	11
Final Examination	1	10	1	11
Total Workload (Hours)				50
[Total Workload (Hours) / 25*] = ECTS				2

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Understands basic statistical information
2	Compares two or more experimental results in terms of mean and standard deviations.
3	Perform statistical calculations of data and evaluate.
4	Understand the errors in the analysis, determine the sources of error and calculate measurement uncertainty
5	Appropriate regulation to interpret analysis results can provide access to standard values
6	Interpret the results of the analysis

Programme Outcomes (Laboratory Technology)

1	To be able to comprehend social, cultural and social responsibilities, to be able to follow national and international contemporary problems and developments
2	Atatürk is bound to Atatürk nationalism in the direction of principles and reforms; Adopting the national, moral, spiritual and cultural values of the Turkish people, open to universal and contemporary developments, the Turkish language is a rich, rooted and productive language; Have a love of language and a consciousness; To have the ability to use as much of a foreign language as he would need to read, taste and habit and professionally.
3	To be able to recognize the basic hardware units and operating systems of a computer, having information about internet usage and preparing documents, spreadsheets and presentations on computer by using office programs.
4	Acquires theoretical and practical knowledge at the basic level in mathematics, science and vocational field.
5	With the knowledge of laboratory technology in the field, he knows and analyzes problems, brings interpretation of data and suggests solutions.
6	In laboratories, according to the prepared business plan and program, necessary work can be done to obtain the desired quality products.
7	To have professional and ethical responsibility in business life.
8	Development and change are open, follow scientific social and cultural innovations, and develop themselves constantly.

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
P1		2	2	2	4	5
P2			2	3	4	
P3	4	3	3	5	4	
P4	3	3	4	5	4	5
P5	5	5	5	5	5	5
P6		4	5	5	5	3
P7		3	4	5	5	5
P8			3	3	3	3

