

ADVANCED TECHNIQUES IN CRIMINALISTIC ANALYSIS I

1	Course Title:	ADVANCED TECHNIQUES IN CRIMINALISTIC ANALYSIS I	
2	Course Code:	KRM5121	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	-	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. BELGIN İZGİ	
15	Course Lecturers:	Prof. Dr. M. H. TÜRKDEMİR Prof. Dr. Belgin İZGİ Prof. Dr. Saliha ŞAHİN Prof. Dr. Elif TÜMAY ÖZER Doç. Dr. Ümran SEVEN ERDEMİR	
16	Contact information of the Course Coordinator:	Prof. Dr. Belgin İZGİ belgin@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	Basic information about classical analysis techniques, instrumental analysis techniques, criminalistic structure analysis techniques (microscopy, spot test, etc.), mapping, software and profiling methods, basic information about spectroscopic macro and micro analysis techniques, calibration of systems, experimental designs, techniques to convey the latest developments.	
19	Contribution of the Course to Professional Development:	Connecting the methods used in the criminal field with the results	
20	Learning Outcomes:		
		1	Students evaluate qualitative and quantitative analysis methods.
		2	Gains knowledge of the theoretical foundations of spectroscopic techniques.
		3	Knows which method to choose in analysis.
		4	She/He knows the techniques she will use in her research.
		5	Understands the importance of spectroscopy in unknown substance analysis.
		6	Learns how different spectroscopic techniques complement each other.
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21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	

1	Classification of physical and chemical analysis in the criminalistic field	
2	Qualitative analysis (microscopy, spot test etc.) and fundamentals	
3	The importance of calibration and its use in applications	
4	Signal-to-noise ratios, noise sources and types, light sources	
5	Introduction to molecular spectroscopy.	
6	Rotation and vibration spectra, electronic absorption spectrum	
7	Luminescence spectra and fluorescence spectroscopy	
8	Midterm exam + review of previous topics	
9	UV and visible spectrophotometer, Turbidimetry and nephelometry	
10	Infrared and Raman spectroscopy,	
11	Molecular fluorescence, phosphorescence, chemiluminescence	
12	Atomic Spectroscopy	
13	Atomic Spectroscopy	
14	Atomic Spectroscopy	
22	Textbooks, References and/or Other Materials:	1. Skoog,Holler, Nieman, Enstrumental Analiz (çeviri), Bilim Yayıncılık, 2008. 2. Internet resources
23	Assesment	
TERM LEARNING ACTIVITIES		NUMBE R
		WEIGHT
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		Relative evaluation is applied.
24	ECTS / WORK LOAD TABLE	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	6.00	84.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	25.00	25.00
Others	0	0.00	0.00
Final Exams	1	25.00	25.00
Total Work Load			201.00
Total work load/ 30 hr			5.87
ECTS Credit of the Course			6.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	5	0	4	0	5	0	5	0	0	0	0	0	0	0	0	0
ÖK2	0	0	4	0	0	0	0	5	4	4	0	0	0	0	0	0
ÖK3	0	4	0	5	4	0	4	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	0	0	0	0	5	4	0	0	0	0	0	0
ÖK6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			