

Course Title-Course Code: ILT 528-ELECTROCHEMICAL METHODS AND APPLICATIONS						Name of the Programme: ADVANCED TECHNOLOGIES		
Semester	Teaching Methods						Credits	
	Lecture	Term paper	Homework	Project	Other (self studying)	Total	Credit	ECTS Credit
1-2	42	-	25	45	76	188	3	7.5
Language	Turkish							
Compulsory / Elective	Elective							
Prerequisites	-							
Course Contents	Electrolysis and Galvanic Cells, Electrode Potentials, Reference Electrodes, Electrochemical Methods: Potentiometric Methods, Voltametric Methods, Polarographic Methods, Amperometric and Coulometric Methods, Applications of Electrochemical Methods: Electrochemical Polymerization, Conducting Polymers, Sensors, Batteries, Environmental Analysis.							
Course Objectives	To learn basic electrochemical methods, to estimate electrochemical results , to learn of applications of the elektrochemical methods.							
Learning Outcomes and Competences	Ability to do analyze of electrochemical results, ability to use technical/modern materials to be required in her/his works, ability to present oral and written forms in her/his field , ability to work on interdisciplinary studies.							
Textbook and /or References	1. Douglas A. Skoog, E. James Holler, Timothy A. Nieman, Principles of Instrumental Analysis , Saunders College Publishing, Fifth Edition, 1998. 2. Douglas A. Skoog, Donald M. West, F. James Holler, Fundamentals of Analytical Chemistry , Saunders College Publishing, Seventh Edition, 1997. 3. Prasanna Chandrasekhar, Conducting Polymers, Fundamentals and Applications , Kluwer Academic Publishers, 1999.							
Assessment Criteria							If any,mark as (X)	Percent % (*)
	Midterm Exams						X	
	Quizzes						-	
	Homeworks						X	
	Projects						X	
	Term Paper						-	
	Final Exam						X	
* The weights of the assessment criteria are determined by the instructor in the beginning of the semester and announced to the students.								
Instructors	Doç.Dr.Yasemin ARSLAN UDUM							
Week	Subject							
1	Introduction to Electrochemistry							
2	Electrolysis Cells and Galvanic Cells							
3	Electrode Potentials, Reference Electrodes							
4-5	Potentiometric, Voltametric and Polarographic Methods							
6-7	Amperometric, Coulometric and Conductivity Methods							
8	Midterm Exams							
9-10	Electrochemical Polymerization							
11	Conducting Polymers							
12	Sensors							
13	Batteries							
14	Environmental Analysis							