

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Fundamentals of Electrochemical Technology		Code
Field of study Chemical and Process Engineering	Profile of study (general academic, practical) general academic	Year /Semester 3/5
Elective path/specialty	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: first-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 2 Classes: - Laboratory: 2 Project/seminars: -		No. of credits 5
Status of the course in the study program (Basic, major, other) Basic		(university-wide, from another field) University-wide
Education areas and fields of science and art Technical science		ECTS distribution (number and %) 5 100 %
Responsible for subject / lecturer: Dr hab. Piotr Krawczyk piotr.krawczyk@put.poznan.pl; tel. 616653655 Wydział Technologii Chemicznej ul. Berdychowo 4, 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Ordered knowledge of mathematics and physical chemistry.
2	Skills	Ability to use the basic techniques in a laboratory scale.
3	Social competencies	The need for further education and enhance of professional and personal competences.
Assumptions and objectives of the course: The aim of the course is to familiarize students with an overview of technical electrochemistry methods and develop skills for their practical application.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. The knowledge in the field of basics of electrochemical processes –[K_W03, K_W04], 2. The knowledge in the field of various electrochemical technologies –[K_W13, K_W15], 3. The knowledge in the field of related fields –[K_W12].		
Skills:		
1. The student has the ability to selection of measurement techniques –[K_U16, K_U19], 2. The student has the ability to use specialized vocabulary in English –[K_U01, K_U02].		
Social competencies:		
1. The student understands the need for self-study and improvement of their professional competence –[K_K01], 2. Student can act and cooperate in the group accepting different roles –[K_K04].		
Assessment methods of study outcomes		
Laboratory assessment on the basis of the current work during the laboratory and the written tests. The written exam. Oral exam with the participation of examiner.		
Course description		

1. The principles of electrochemical processes. 2. Electrodes balances. 3. The kinetics of electrode processes. 4. The selected electrochemical processes. 5. The processes based on the electrochemical processes.		
Basic bibliography: 1. A. Kisza – Elektrochemia cz. I i II (Jonika i Elektrodyka) WNT, W-wa, 2001, 2. R. Dylewski, W. Gniot, M. Gonet, Elektrochemia przemysłowa, Wyd. Politechniki Śląskiej, 1999, 3. A. Czerwiński, "Ogniwa, akumulatory, baterie", WNT, W-wa, 1999.		
Additional bibliography: 1. A.V. da Rosa, „Fundamentals of Renewable Energy Processes” Elsevier/Academic Press, 1990, 2. H. Scholl, T. Błaszczuk, P. Krzyczmonik, Elektrochemia, Wyd. Uniwersytetu Łódzkiego, 1998.		
Result of average student's workload		
Activity	Time (working hours)	
1. lecture	30	
2. consultation to the lecture	6	
3. consultation to the laboratory	6	
4. preparation for the laboratory	8	
5. laboratory	30	
6. preparation for the laboratory credit	20	
7. laboratory credit	4	
Student's workload		
Source of workload	hours	ECTS
Total workload	104	5
Contact hours	76	3
Practical activities	28	2