Level: bachelor

Course title: Electrochemistry

Status: elective

ECTS: 7

Requirements: none

Learning objectives

To enable the students to acquire broad theoretical and practical knowledge of the most important electrochemical principles and phenomena;
To enable students for successful performance of experiments using the appropriate methodology; To enable development of theoretical and practical knowledge useful for further education and practice.

Learning outcomes

On completion of this course, the students will be able to define the most important electrochemical principles and phenomena and illustrate their practical application, demonstrate the acquired knowledge and comprehension of facts, subjects and principles by solving electrochemical problems; successfully apply the basic laboratory methodology in the field of chemistry, and draw the conclusions based on experimental results and their mathematical analysis.

Syllabus

Theoretical instruction

Fundamentals of ionics. Equilibrium electrochemical systems. Electrochemical double-layer and electrokinetic phenomena. Chemical sources of electrical energy. Experimental methods in electrochemistry. Corrosion of materials and protection.

Practical instruction

Laboratory work follows the theoretical instruction.

Weekly teaching load				Other:
Lectures: 3	Exercises: 3	Other forms of teaching:	Student research:	