



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Podstawy technologii elektrochemicznej (Fundamentals of electrochemical technology)

Course

Field of study

Year/Semester

Technologia chemiczna (Chemical Technology)

III/6

Area of study (specialization)

Profile of study

general academic

Level of study

Course offered in

First-cycle studies

Polish

Form of study

Requirements

full-time

elective

Number of hours

Lecture

Laboratory classes

Other (e.g. online)

15

Tutorials

Projects/seminars

Number of credit points

1

Lecturers

Responsible for the course/lecturer:

Responsible for the course/lecturer:

dr hab. Piotr Krawczyk, prof. PP

Prerequisites

The student has an ordered knowledge of mathematics and physical chemistry. He has an ability to use the basic techniques in a laboratory scale. He can work individually and in teams and he also has a need for further education and enhance of professional and personal competences.

Course objective

The aim of the course is to broaden the knowledge as well as reinforcing the skills to plan and conduct electrochemical processes used in practice.

Course-related learning outcomes

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 can use in practice theoretical knowledge gained earlier –[K_U08, K_U15, K_U16],



2. The student has the ability to selection of measurement techniques –[K_U01, K_U02],

Social competences

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_K03].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Laboratory assessment on the basis of the current work during the laboratory and the written tests.

Programme content

1. Electrode materials used in electrochemical technologies.
2. Electrochemical techniques used in practice in electrochemical processes.
3. The examples of electrochemical synthesis.
4. Corrosion and its electrochemical aspects.

Teaching methods

Laboratory exercises, explanation, didactic discussion.

Bibliography

Basic

1. A. Kiszka – 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,
4. C. G. Zoski praca zb., Handbook of Electrochemistry, Elsevier, 2007,
5. A. Ciszewski, Technologia chemiczna. Procesy elektrochemiczne, Wyd. Politechniki Poznańskiej, 2008.

Additional

1. A.V. da Rosa, Fundamentals of Renewable Energy Processes, Elsevier/Academic Press, 1990,
2. H. Scholl, T. Błaszczak, P. Krzyczmonik, Elektrochemia, Wyd. Uniwersytetu Łódzkiego, 1998,
3. J. Baszkiewicz, M. Kamiński, Korozja materiałów, Wyd. Politechniki Warszawskiej, 2006.



Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,0
Classes requiring direct contact with the teacher	20	0,8
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹	5	0,2

¹ delete or add other activities as appropriate