

Course title: Introduction to industrial catalytic processes

Institute/Division: FACULTY OF CHEMICAL ENGINEERING AND TECHNOLOGY

Number of contact hours: 15 hours (15 h lectures)

Course duration: 1 semester (6th semester of regular I cycle studies - spring)

ETCS credits: 1

Course description: The aim of the course is to provide an understanding of the basic and applied aspects of industrial catalytic processes. Within the course, the student will gather knowledge in a field of basic concepts of catalysts, methods of preparation and characterization of industrial catalysts, basic catalytic mechanisms and the most utilized industrial catalytic processes.

Education effects :

- knowledge: student has a knowledge in basic concepts of catalysis including methods of preparation and characterization of catalysts, student has a knowledge about basic mechanisms in heterogeneous catalysis, student has a knowledge about the most utilized industrial catalytic processes

- skills: Student is able to describe the basics of catalytic activity and selectivity. describe chemical and physical properties of industrial catalysts; Exemplify industrial applications that utilize heterogeneous catalysts, describe the methods for preparation of heterogeneous catalysts, explain mechanisms for heterogeneous catalytic processes;

Literature: [1] Jacob A. Moulijn, Chemical Process Technology
[2] Gerhard Ertl (Editor) , Helmut Knözinger (Editor) , Ferdi Schüth (Editor) , Jens Weitkamp (Editor), Handbook of Heterogeneous Catalysis

Assessment method: Final test

Prerequisites: Basic knowledge in organic and inorganic chemistry and technology.

Primary target group: Students from all specialties

Lecturer: dr hab. inż. P. Jodłowski

Contact person: dr hab. inż. P. Jodłowski, pjodlowski@pk.edu.pl

Remarks: The course is selectable