Name: ***An outline of green chemistry (C-PS.II1-GreenCh)***
Name in Polish:
Name in English: ***An outline of green chemistry***

Information on course:

Course offered by department: Faculty of Chemistry
Course for department: Faculty of Chemistry

Default type of course examination report:

Grading

Language:

English

Description:

Atom economy – principles and examples. Selected solutions in area of homogeneous and heterogeneous catalysis as well as biocatalysis. The use of catalytic systems for pollution abatement with the special emphasis on destruction of volatile organic compounds, reduction of carbon and nitrogen oxides emissions. Examples of technologies improvement will be given, too.

Bibliography:

1. R.A. Sheldon, I. Arends, U. Hanefeld, Green chemistry and catalysis, Wiley-VCH, Weinheim, 2007.
2. R.M. Heck, R.J. Farrauto, S.T. Gulati, Catalytic air pollution control, John Wiley & Sons, Inc., New York, 2002.
3. Green catalysis (R.H. Crabtree, Ed.), Vol. 1-3, Wiley-VCH, Weinheim, 2009.
4. Lecture notes.

Learning outcomes:

KNOWLEDGE
W1. Has knowledge to describe a role of chemistry in sustainable development.
K_W01
W2. Has knowledge to decribe and analyze the correlation between chemistry
and the environment. K_W01.
W3. Has knowledge to characterize the chosen technologies in the light of
green chemistry roles. K_W01
SKILLS
U1. Can identify and analyze improvements in technologies related to green
chemistry. K_U01
ATTITUDES
K1. Understand creativity and ability of interdisciplinary thinking and science
role in sustainable development. K_K06

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Contact hours (work with an academic teacher)
Lecture 15 hrs
Total number of hours with an academic teacher
15 hrs
Number of ECTS points with an academic teacher
0.5
Non-contact hours (students' own work)
Literature studies 5 hrs
Preparation and participation in presentations 10 hrs
Total number of non-contact hours
15 hrs
Number of ECTS points of non-contact hours
0.5
Total number of ECTS points for the module
1

Consultation 2 hrs

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Credit based on power point presentation: W1-W3, K1, U1.

Requirements

Fundamentals of physical chemistry, chemical technology and elementary knowledge of spectroscopy methods.

Course credits in various terms:

<without a specific program>			
Type of credits	Number	First term	Last term
European Credit Transfer System (ECTS)	1	15/16	