



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Organic preparations [S1TCh2>PO]

Course

Field of study

Chemical Technology

Year/Semester

2/3

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

Number of hours

Lecture

0

Laboratory classes

30

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

Number of credit points

2,00

Coordinators

prof. dr hab. inż. Łukasz Chrzanowski
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Lecturers

Prerequisites

At the beginning of the course, the student should have a basic knowledge of general chemistry. The student should know the symbols of the elements and the principles of chemical bonds creation, and should comprehend and discuss selected issues of inorganic chemistry at ease - catalytic properties of metals, complexes formation. The student should have the ability to associate facts and to obtain information from indicated sources.

Course objective

The aim of the course is to become familiar with the apparatus and equipment used in organic synthesis and the basic techniques used for the separation and purification of organic compounds - distillation, extraction, sublimation and crystallization.

Course-related learning outcomes

Knowledge:

K_W03 has the knowledge of chemistry necessary to understand chemical phenomena and processes
P6S_WG

K_W08 has a structured, theoretically underpinned general knowledge of general and inorganic,

organic, physical and analytical chemistry P6S_WG

K_W09 has the necessary knowledge of both natural and synthetic raw materials, products and processes used in chemical technology, and the directions in chemical industry development (in the country and worldwide) P6S_WG P6SI_WG

Skills:

K_U01 is able to obtain the necessary information from literature, databases and other sources related to chemical sciences, to properly interpret them, draw conclusions, formulate and justify opinions

P6S_UW

K_U24 predicts the reactivity of chemical compounds based on their structure, estimates the thermodynamic and kinetic effects of chemical processes P6S_UW

K_U20 uses basic laboratory techniques for the synthesis, secretion and purification of chemicals

P6S_UW P6SI_UW

Social competences:

K_K06 can think and act in an entrepreneurial way P6S_KO

K_K01 understands the need for further education and improvement of professional, personal and social competences P6S_KKK

K_K04 is able to properly define priorities for the implementation of the designated task P6S_KR

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Tests of the theoretical knowledge necessary for the safe performance of the laboratory exercise. Execution of planned experiments with further description of observations and correct execution of necessary preparative calculations. Crediting on the basis of the performance of the planned experiments and passing all tests from the theoretical knowledge.

Programme content

Within the course the student performs practical exercises such as simple distillation, steam distillation, distillation of flammable solvents, crystallization, sublimation and extraction.

Course topics

none

Teaching methods

Laboratories with practical acquaintance with the chemical apparatus and equipment used in the synthesis and separation of organic compounds, with oral questioning of the course of the exercises and keeping laboratory notebooks.

Bibliography

Basic:

1. Robert Morrison, Robert Boyd, Chemia organiczna, Wydawnictwo Naukowe PWN
2. John McMurry, Chemia organiczna, Wydawnictwo Naukowe PWN

Additional:

1. Arthur Vogel, Preparatyka organiczna, Wydawnictwo Naukowe PWN
2. Susan McMurry, Chemia organiczna, Wydawnictwo Naukowe PWN

Breakdown of average student's workload

| | Hours | ECTS |
|---|-------|------|
| Total workload | 50 | 2,00 |
| Classes requiring direct contact with the teacher | 30 | 1,00 |
| Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation) | 20 | 1,00 |