COURSE DESCRIPTION CARD - SYLLABUS

Course name
Introduction to chemical technology [S1TCh2E>WdTC]

Course

Field of study
Chemical Technology

Year/Semester
1/1

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
English

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
15

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
0

Number of credit points

1,00

Coordinators

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Lecturers

Prerequisites

At the beginning of classes, the student should have knowledge at the high school level in the following areas: general chemistry, inorganic chemistry, organic chemistry, physics and mathematics. They should have basic, general knowledge of raw materials used for industrial production in Poland and in the world. In addition, the student should be able to obtain information from literature, databases and other properly selected sources. The student should be ready to cooperate within the team. He understands the need for training and the need to expand his competences.

Course objective

Understanding and obtaining basic knowledge related to chemical technology (chemical and technical sciences). Obtaining knowledge about industrial sectors in the field of chemical technology and economic models. Getting to know the interdisciplinary view of industrial processes. Providing students with general knowledge in the field of transforming various raw materials into useful final products. Familiarizing students with the technological process. Presentation of employment prospects after graduation. Increasing the student's awareness of the important role played by a chemical technologist on the labor market.

Course-related learning outcomes

none

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Passing the course - the knowledge acquired during the lecture is verified in the form of a written test after the end of the series of lectures. Written test in the form of open questions on the issues presented in the lecture (the student obtains a credit with at least 51% of points). Issues for the colloquium will be presented to students during the lecture or sent by e-mail using the university's e-mail system. If it is not possible to conduct the credit in the stationary form, the knowledge will be verified in the form of an on-line test (closed and open questions) using the eKursy platform or using the university infrastructure.

Programme content

Discussing issues relating to introduction to the basics of chemical technology, industrial sectors in Poland and in the world, technological process, product life cycle, innovative technological solutions in various industries and the role of a chemical technologist in the industry

Course topics

The lecture covers the following topics:
Introduction to the basics of chemical technology - the intertwining of chemical and technical sciences.
Industrial sectors in the field of chemical technology in Poland and in the world
Stages of the technological process (purchase / acquisition of raw materials, quality control of raw materials, production / synthesis, final product, quality control of the final product, storage, transport to the recipient).
Product life cycle (chemical sector). Assumptions of the linear economy and circular model.
Examples of innovative technological solutions in various industries.
The role of a chemical technologist in the industry (professional career, employment prospects, discussion of current job offers).
Education program in the field of Chemical Technology
In addition, as part of the lecture, a meeting with a representative of industrial sectors is planned to familiarize students with practical aspects related to chemical technology.

Teaching methods

Lecture: multimedia presentation.
Meeting with representatives of the economic sector in the field of chemical technology.

Bibliography

Basic:
1. K. Schmidt-Szałowski, J. Sentek, J. Raabe, E. Bobryk, Podstawy technologii chemicznej. Procesy w przemyśle nieorganicznym, Oficyna Wydawnicza Politechniki Warszawskiej Warszawa 2004.
2. A. Bielański, Podstawy chemii nieorganicznej, t.1-3, PWN, Warszawa 2012
3. J. Szarawara, J. Piotrowski, Podstawy teoretyczne technologii chemicznej, WNT Warszawa 2010
4. E. Grzywa, J. Molenda, Technologia podstawowych syntez organicznych, T. 1 i 2, WNT, Warszawa 2008.

Additional:
1. B. Burczyk: Biomasa. Surowiec do syntez chemicznych i produkcji paliw, Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2011
2. J.A. Moulijn, M. Makkee, A. van Diepen: Chemical Process Technology, Wiley-Blackwell, Chichester 2013.
3. J. Pielichowski, A. Puszyński, Technologia tworzyw sztucznych, WNT, Warszawa 2003

Breakdown of average student's workload

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