



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Proecological solutions in production processes [S2TOZ1>RPwPP]

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### Course

Field of study

Circular System Technologies

Year/Semester

1/2

Area of study (specialization)

Material recycling and chemical recovery

Profile of study

general academic

Level of study

second-cycle

Course offered in

Polish

Form of study

full-time

Requirements

elective

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### Number of hours

Lecture

15

Laboratory classes

0

Other

0

Tutorials

0

Projects/seminars

0

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### Number of credit points

1,00

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### Coordinators

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### Lecturers

### Prerequisites

Basic, ordered, theoretically founded, systematic knowledge in the field of chemical technology, also covering key issues regarding natural and synthetic raw materials, products and processes used in chemical technology, as well as methods for assessing product quality. The ability to assess the technological suitability of raw materials and the selection of the technological process in relation to the product quality requirements, the ability to obtain information from literature, databases and other sources also in English, as well as interpret the obtained data, draw conclusions, and formulate and justify opinions.

### Course objective

Expanding knowledge in the field of chemical technology and related fields and product quality assessment, the basics of production management enabling students to link their theoretical knowledge with the experience of practitioners passed on during lectures. Deepening students' knowledge of how to conduct real technological processes, problems arising during the implementation of such processes, how to respond and solve them.

## Course-related learning outcomes

### Knowledge:

The student has advanced, detailed knowledge of sustainable production issues, behavioural principles and development trends in the circular economy. K\_W03

The student has in-depth knowledge to design technological processes based on the principles of the circular economy. K\_W07

The student has a structured and theoretically based knowledge of the selection of raw materials, methodological and apparatus bases for the implementation of state-of-the-art technologies, also based on the principles of the circular economy. K\_W13

### Skills:

The student is able to communicate orally with specialists in the field of the circular economy and related fields. K\_U01

The student is able to analyse and critically evaluate new areas in technologies applied in the circular economy and related fields, assessing their innovativeness and technical feasibility. K\_U16

### Social competences:

The student is aware of the personal responsibilities arising from their professional role and of the moral and ethical problems that arise in the context of professional activities. K\_K01

The student understands the need to disseminate knowledge about sustainable production and technological solutions in a circular economy. C\_K02

The student critically evaluates their knowledge and understands the need for further education and improvement of their professional, personal and social competences. K\_K03

## Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

Class attendance: 6 lectures x 1 point = 6 points

Test on a e-learning platform (3 questions to each lecture).

6 lectures x 3 questions x 1 point = 18 points

In total = 24 points

Points scored Grade

12 ÷ 14,3 sufficient 3.0

14,4 ÷ 16,7 sufficient plus 3.5

16,8 ÷ 19,1 good 4.0

19,2 ÷ 21,5 good plus 4.5

21,6 ÷ 24 very good 5.0

## Programme content

Lectures cover a diverse and broad range of topics related to chemical technology in various industries (food, pharmaceuticals, fertilisers), product quality assessment, production management, environmental regulations, pro-ecological solutions in industrial practice.

## Course topics

Each lecture will be given by practitioners, representatives of different companies from Poznań and Wielkopolska.

The lectures will be held in two thematic paths: "Technological processes in practical aspects" and "Pro-ecological solutions in production processes" (each with its own ECTS card):

Path 2: Pro-ecological solutions in production processes - lectures will cover the topics of production process management, project management and technological problems, e.g. in the pharmaceutical and food industries, validation of methods and quality control of results, principles of transport of hazardous substances.

## Teaching methods

lecture, discussion

## Bibliography

Basic:  
Determined directly by the lecturer concerned.

Additional:  
Determined directly by the lecturer concerned.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,00
Classes requiring direct contact with the teacher	15	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	10	0,50