



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Elective subject III (Waste management)

Course

Field of study

Chemical and process engineering

Area of study (specialization)

Chemical engineering

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

Polish

Requirements

elective

Number of hours

Lecture

15

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

Number of credit points

1

Lecturers

Responsible for the course/lecturer:

dr hab. inż. Magdalena Krawczyk-Coda

Responsible for the course/lecturer:

Prerequisites

Student starting this lecture should have a basic knowledge of environmental protection. Student should also have the skills to obtain the necessary information from the indicated sources and databases.

Course objective

To provide students with knowledge of waste management. To familiarize with the concept of waste, the problems of handling them and the technologies for their recovery and disposal allowed in Poland.

Course-related learning outcomes

Knowledge

1. Student knows the principles of environmental protection related to waste management. [K_W05]
2. Student has the knowledge to describe the basic development trends related to waste management. [K_W11]
3. Student has basic knowledge about the life cycle of products, as well as recognizes and characterizes waste recovery and neutralization technologies. [K_W13]



Skills

1. Student can obtain, analyze and interpret information from literature and other sources (eg. legal acts), justify and formulate conclusions about waste management. [K_U01]
2. Student is able to work both individually and in the team. [K_U02]
3. Student is able to self-educate in the field of waste management. [K_U06]
4. Student can use correctly the terminology related to waste management. [K_U08]

Social competences

Student understands the need for self-studying and improvement of her/his professional competences.

- [K_K01]

2. Student is aware of the importance of the problems related to waste management. - [K_K02]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The knowledge acquired during the lecture will be verified by one 45-minute test carried out during the 8th lecture. Test consists of 6 open questions, equally scored. Student will need to achieve a score of 50% or better to pass. Theoretical issues on the basis of which questions are prepared will be sent to students by e-mail using the university e-mail system.

Programme content

Legal aspects of waste management; Raw materials and waste in the environment (including the life cycle of the product, the possibility of re-use); Rules and ways to manage waste; Processes and installations for waste preparation and processing (including the production of alternative fuel); Handling of problematic waste (including end-of-life vehicles, used electronic equipment, batteries and accumulators, waste oils).

Teaching methods

Multimedia presentation

Bibliography

Basic

1. Kompleksowe zarządzanie gospodarką odpadami, Praca zbiorowa pod redakcją Tadeusza Marcinkowskiego, Polskie Zrzeszenie Inżynierów i Techników Sanitarnych Oddział Wielkopolski, Poznań 2011
2. Podstawy gospodarki odpadami, Czesława Rosik-Dulewska, Wydawnictwo Naukowe PWN, Warszawa 2015

Additional

1. Ustawa o odpadach (Dz.U.2013.0.21 - Ustawa z dnia 14 grudnia 2012 r. z późniejszymi zmianami)



2. Uchwała nr 88 Rady Ministrów z dnia 1 lipca 2016 r. w sprawie Krajowego planu gospodarki odpadami 2022

Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,0
Classes requiring direct contact with the teacher	15	0,6
Student's own work (literature studies, preparation for test) ¹	10	0,4

¹ delete or add other activities as appropriate