



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Environmental management and ecology

Course

Field of study

Year/Semester

Mechanical Engineering

2/4

Area of study (specialization)

Profile of study

- general academic

Level of study

Course offered in

First-cycle studies

Polish

Form of study

Requirements

full-time

compulsory

Number of hours

Lecture

Laboratory classes

Other (e.g. online)

15

0

0

Tutorials

Projects/seminars

0

15

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

Responsible for the course/lecturer:

dr inż. Dorota Nagolska

e-mail: dorota.nagolska@put.poznan.pl

Wydział Inżynierii Mechanicznej

ul. Piotrowo 3, 60-965 Poznań

hala A15

Prerequisites

Basic knowledge of chemistry, materials science and production management.

Course objective

The aim of the course is to acquire knowledge of the basics of ecology and contemporary problems of environmental protection, landscape protection and environmental management.

Course-related learning outcomes

Knowledge

1. Has basic knowledge of ecology and environmental management.
2. Indicates the reasons for the need to conduct environmental management.



3. Can determine the impact of the company's activities on the environment.

Skills

1. Can recognize and define the way of industrial waste management.
2. Can design an environmental management system for a selected production company.

Social competences

1. Can work independently and as a team on a given task.
2. Is aware of the role of environmental management in a production company, can express opinions on ecology and waste management.
3. Understands the need for lifelong learning.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture

Written credit. Positive evaluation in the case of obtaining min. 50.1% correct answers. Up to 50.0% - ndst, from 50.1% to 60.0% - dst, from 60.1% to 70.0% - dst +, from 70.1 to 80 - db, from 80.1% to 90 , 0% - db +, from 90.1% - very good.

Project

Presence at field classes. Preparation of a project for an environmental management system assessed by the teacher.

Programme content

History of environmental protection. Fundamentals of ecology. Ecology and environmental protection in business management, models and definitions of environmental management. Environmental management systems. Legal and economic foundations of environmental protection in Poland and the EU. Environmental threats. Industrial and communal pollutants and their impact on living organisms and the environment. Degradation and reclamation of elements of the natural environment. Protection of the lithosphere, hydrosphere and atmosphere, landscape protection. Municipal and industrial sewage treatment plants. Sources of noise and its impact on human health. Projects and technical measures in environmental protection. Alternative energy sources.

Teaching methods

Lecture: multimedia presentation, film, discussion.

Project: multimedia presentation illustrated with examples given on the board, help in preparing a management system project in a selected enterprise, help in choosing a method.

Bibliography



Basic

1. Zarzycki R., Imbierowicz M., Stelmachowski M.,: Wprowadzenie do inżynierii i ochrony środowiska. Cz. I i II. WNT. Warszawa 2007.
2. Gajdzik B., Wyciślik A.: Wybrane aspekty ochrony środowiska i zarządzania środowiskowego. Wyd. Politechniki Śląskiej. Gliwice 2007
3. Poskorbko B.: Zarządzanie środowiskiem. PWE. Warszawa 2007.
4. Stefanowicz T.: Wstęp do ekologii i podstawy ochrony środowiska Wyd. Politechniki Poznańskiej. Poznań 1996
5. Kłos Z. Feder S. Ochrona środowiska w budowie maszyn i transporcie. Wyd. Politechniki Poznańskiej. Poznań 2002.

Additional

1. Praca zbiorowa Zarządzanie środowiskowe ISO 14 000, tom 1-5 Wyd. CSziOSJ Politechniki Krakowskiej Kraków 2008
2. Bilitewski B., Härdtle G., Marek K. Podręcznik gospodarki odpadami: teoria i praktyka Wyd. Seidel-Przywecki Warszawa 2003

Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for tutorials, preparation for tests/exam, project preparation) ¹	30	1,0

¹ delete or add other activities as appropriate