



Projekt współfinansowany przez Unię Europejską w ramach Europejskiego Funduszu Społecznego



Course title	ECTS code
Eco-innovation strategies	13.3.1205

#### Name of unit administrating study

null

## **Studies**

faculty	field of study	type	first tier studies (BA)
Faculty of Chemistry	Chemical Business	form	full-time
		specialty	all
		specialization	all
Faculty of Chemistry	Chemistry	type	first tier studies (BA)
		form	full-time
		specialty	all
		specialization	all
Faculty of Chemistry	Environmental	type	first tier studies (BA)
	Protection	form	full-time
		specialty	all
		specialization	all

#### **Teaching staff**

prof. dr hab. Ewa Siedlecka: dr Aleksandra Bielicka-Gieldoń

prof. at hab. Etta cicalcona, at 7 tickcariata Biolicka Ciclacii		
Forms of classes, the realization and number of hours	ECTS credits	
Forms of classes	2	
Auditorium classes	auditorium classes - 15 h	
The realization of activities	tutorial classes – 5 h	
classroom instruction	student's work – 30 h	
Number of hours		
Auditorium classes: 15 hours	Total: 50 h - 2 ECTS	

## The academic cycle

2024/2025 summer semester

cities, and people's everyday life.

Type of course	Language of instruction
an elective course	english
Teaching methods	Form and method of assessment and basic criteria for eveluation or examination requirements
Auditorium classes carried out by the project method	
with the use of multimedia presentations presented by the teacher and students, discussion and	Graded credit
	Assessment methods

< 51%: 2.0

# proposing eco-innovative solutions related to various

multimedia presentation, report, test

## The basic criteria for evaluation

Auditorium classes: a positive note from multimedia presentation, report and test. The final note is an average from notes from multimedia presentation, report and test: 91-100%: 5.0 81-90%: 4.5 71-80%: 4.0 61-70%: 3.5 51-60%: 3.0

#### Method of verifying required learning outcomes

aspects of the functioning of industry, rural areas and

## Required courses and introductory requirements

## A. Formal requirements

lack



#### **B. Prerequisites**

lack

#### Aims of education

Familiarise students with eco-innovative solutions related to various aspects of the functioning of industry, rural areas and cities, and people's everyday lives.

#### **Course contents**

Eco-innovations as the introduction of any new or significantly improved product (good or service), process, organisational change or marketing solution that reduces the use of natural resources (including materials, energy, water and land) and decreases the release of harmful substances across the whole life-cycle. Discussing and proposing solutions concerning various types of eco-innovation: technological, social, organisational, institutional and marketing. Identifying the benefits of implementing eco-innovations in industry, rural and urban areas, and people's everyday lives.

## Bibliography of literature

Literature required to pass the course scientific articles indicated by the teachers

## The learning outcomes (for the field of study and specialization)

#### Chemical Business:

K\_BCh\_W05 describes at an advanced level the life cycle of devices, facilities and technical systems as well as modern environment-friendly technical solutions

K\_BC\_W06 enumerates unit processes and describes issues in the field of technology and chemical engineering K\_BCh\_U01 on the basis of the acquired knowledge, identifies, analyses and solves engineering tasks and problems in broadly understood chemistry

K\_BCh\_U05 evaluates the usefulness and functioning of existing engineering and technical solutions as well as research and measurement methods in the chemical industry

K\_BCh\_K01 identifies the level of her/his own knowledge and skills as well as the need to update engineering knowledge, continuous professional training and personal development

## Chemistry:

K\_W03 explains at an advanced level the relationship between the structure of matter and its observed propertiesK\_W05 has advanced knowledge of the chemical specialisation studied

K\_U01 identifies, analyses and solves problems in the field of broadly understood chemistry on the basis of the acquired knowledge

K\_U11 prepares and presents oral presentations in various fields of chemistry in Polish and English, using acquired knowledge and skills as well as basic sources of scientific information

K\_K06 raises her/his professional and personal competences by using information provided in various sources

#### **Environmental Protection:**

K\_OŚI\_W07 explains at an advanced level the causal relationship between the content of specific pollutants and the state of the environment (including human health) and the occurrence of adverse phenomena on a local, regional and global scale

K\_OŚI\_W08 explains in an advanced degree the mechanisms of economic and consumer pressure on the environment and recognises the possibilities of reducing it using the latest knowledge and scientific achievements

#### Knowledge

Students: defining eco-innovations; discussing and proposing solutions concerning various types of eco-innovation; Identifying the benefits of implementing eco-innovations in industry, rural and urban areas, and people's everyday lives

#### Skills

Students: propose the solutions to environmental problems connected with reducing the use of natural resources and decreases the release of harmful substances across the whole life-cycle of a product; explain relations between the environment pollution and proposed eco-innovations;

## Social competence

Students: understand the need for learning, inspire others for learning; cooperate in a group, taking different roles; exhibit creativity in the determination of priorities necessary for the realisation of various tasks; understand social aspects of practical use of knowledge and abilities as well as connected with their responsibility.

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K\_OŚI\_U06 uses available sources of information and understands literature in the field of environmental protection, chemistry and natural sciences
K\_OŚI\_K05 identifies the level of her/his knowledge and skills, demonstrates the need to update knowledge about the environment and its protection, demonstrates the need for continuous professional training and personal development

## Contact

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