KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez Unię Europejską w ramach Europejskiego Funduszu Społecznego

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY

Course title	ECTS code
Biotech trends	13.3.1203

Name of unit administrating study

null

Studies

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

Teaching staff

dr Joanna Jeżewska-Frąckowiak

Forms of classes, the realization and number of hours

Forms of classes

Laboratory classes

The realization of activities

lectures in the classroom

Number of hours

Laboratory classes: 15 hours

ECTS credits

2
classes - 15 h
tutorial classes - 15 h
studnet's own work - 20 h
TOTAL - 50 h - 2 ECTS

The academic cycle

2023/2024 summer semester

Type of course

an elective course

Language of instruction

english

Teaching methods

Conversational laboratory classes
On-line team sharing materials and methods
Multimedia and on-line tools
Multimedia presentation on the chosen subject
Team work

Form and method of assessment and basic criteria for eveluation or examination requirements

Final evaluation

Graded credit

Assessment methods

Peer- assesment method via rubricks of the presentation on chosen subject
Assessment of the presentation documentary in form of an essay
Final grade assessment

The basic criteria for evaluation

the quality of oral presentation assessed in the terms of presented formal criteria (trustworthy literature bibliography, vocabulary/language, construction of the speech, overall meritoric value and content, innovation, use of multimedia and on-line tools)
documenting of the presentation in a form of an essay (punctuality, completeness)
Participation in the peer- assessment and discussion, rubricks.
Final grade consistent with the scale given in UG Study Regulations

Method of verifying required learning outcomes

Chemical Business:
K_BCh_W04 Assessment of the oral presentation and written documentary. Rubricks as a tool for peer-assessment.
K_BCh_W07 Assessment of the oral presentation and written documentary. Rubricks as a tool for peer-assessment.
K_BCh_U09 The quality of oral presentation assessed in the terms of presented formal criteria, rubricks involved
K_BCh_K02 Rubricks resulting from the cooperation in team while the peer-assessment process.

Chemistry:
K_W01 Peer- assessment of the oral presentation, using formal criteria, assessment of the written documentation. Rubricks.
K_W10 Peer- assessment of the oral presentation, using formal criteria, assessment of the written documentation. Rubricks.
K_U11 The quality of oral presentation assessed in the terms of presented formal criteria, rubricks involved
K_K02 Rubricks resulting from the cooperation in team while the peer-assessment process.

Environmental Protection:
K_OŚI_W02 Peer- assessment of the oral presentation, using formal criteria, assessment of the written documentation. Rubricks.
K_OŚI_W05 Peer- assessment of the oral presentation, using formal criteria, assessment of the written documentation. Rubricks.
K_OŚI_U13 The quality of oral presentation is peer- assessed in the terms of presented formal criteria, using the system of rubricks.
K_OŚI_K02 Rubricks resulting from the cooperation in team while the peer-assessment process.

Required courses and introductory requirements

A. Formal requirements
lack

B. Prerequisites
lack

Aims of education

1. Presenting the chosen topics from the lecture course contents.
2. Presenting the reliable sources of information, scientific and non-scientific sources of information and chosen multimedia and on-line tools.

Course contents

Molecular biotechnology and cloning, telemedicine, gene therapy, gene editing, organisms cloning, enzyme discovery for sustainable plastic recycling, multiproduct microalgae rafineries, animal immunization, display technologies, antibody discovery, biotechnology and biosafety – trends, in silico process modellling of vaccines, oxygen releasing biomaterials, CRISPR/Cas9 systems future application, massive sequencing and metagenomics, GMO's

Bibliography of literature

On-line sources indicated by the lecturer
Biochemistry. Jeremy M. Berg, John L. Tymoczko, Lubert Stryer 7th edition

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

Chemical Business:
K_BCh_W04 describes the role of experiment and computer simulation in the design process of engineering issues
K_BCh_W07 describes the construction and operating principles of scientific, technological and control-measuring apparatus
K_BCh_U09 using the acquired knowledge, skills and various sources of scientific information independently prepares written papers and oral presentations
K_BCh_K02 works individually demonstrating initiative and independence in actions, and effectively cooperates in a team, performing various roles in it
Chemistry:
K_W01 enumerates laws and theories in chemistry, physics, mathematics and biology
K_W10 enumerates and describes the aspects of the construction, operation and use of measuring apparatus and equipment used in experimental works in the field of chemistry and related sciences
K_U11 prepares and presents oral presentations in various fields of chemistry in Polish and English, using acquired

Knowledge

Contemporary trends in biotechnology. Possible future trends in biotech industry. Reliable sources of scientific information. Basic terms and definitions in biotechnology. Basic biotechnological processes.

Skills

Evaluating the reliable source of information, seeking for information. Peer-assessment of the presentation. On- line tools, databases in biotechnology. Multimedia techniques of presentation. Public speech. Written report construction.

Social competence

Understanding the need of further education.
Carefully and critically expressing own opinions, bearing in mind and valuing possibilities offered by modern biotechnology.
Planning and performing a public speech.
Working in team independently and in team. Peer assessment proceeded in team.

knowledge and skills as well as basic sources of scientific information K_K02 works individually demonstrating initiative and independence of activity and cooperates in a team fulfilling various roles in it Environmental Protection: K_OŚI_W02 characterises at an advanced level the relationships and relationships between various disciplines of natural sciences and science, uses knowledge of mathematics, physics, chemistry and biology in the description of basic concepts, concepts and principles in environmental protection K_OŚI_W05 explains at an advanced level the course of natural and anthropopressional physical, chemical and biological processes and phenomena occurring in nature at various levels of matter organization K_OŚI_U13 assesses the performance of tasks K_OŚI_K02 works individually demonstrating initiative and independence in actions, and effectively cooperates in a team, performing various roles in it	

Contact

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