KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez Unię Europejską w ramach Europejskiego Funduszu Społecznego

UNIA EUROPEJSKA
EUROPEJSKI FUNDUSZ SPOŁECZNY

Course title	ECTS code
Monographic lecture - Modern methods of chemical synthesis	13.3.1235

Name of unit administrating study

null

Studies

faculty	field of study		
Wydział Chemii	Biznes chemiczny	type	drugiego stopnia
		form	stacjonarne
		specialty	wszystkie
		specialization	wszystkie

Teaching staff

dr hab. Elżbieta Jankowska, profesor uczelni

Forms of classes, the realization and number of hours

Forms of classes

Lecture

The realization of activities

classroom instruction

Number of hours

Lecture: 30 hours

ECTS credits

3
classes 30 h
tutorial classes 10 h
student's own work 35 h
TOTAL: 75 h - 3 ECTS

The academic cycle

2023/2024 summer semester

Type of course

obligatory

Language of instruction

polish

Teaching methods

•multimedia presentation combined with a discussion
•solving problem tasks (designing reaction routes)

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

Final evaluation

Graded credit

Assessment methods

- •solving problem tasks (designing reaction routes), individually and / or in a group
  •written exam with open questions
  written test exam
- written exam with open questions
- written exam (test)

The basic criteria for evaluation

Method of verifying required learning outcomes

Required courses and introductory requirements

A. Formal requirements
B. Prerequisites

Aims of education

Aims of education
Familiarizing students with:

- basic rules of carrying organic synthesis
- modern methods of organic synthesis, allowing the formation of new carbon-carbon and carbon-heteroatom bonds
- modern techniques of organic synthesis
- the concept of retrosynthesis

Enabling students to acquire skills of designing multi-step syntheses of organic compounds

Course contents

Bibliography of literature

The learning outcomes (for the field of study and specialization)	
	Knowledge Knowledge The student: • describes the structure of substrates and catalysts needed to carry out the reactions discussed during the lectures • describes the conditions that must be secured for the reaction to proceed effectively • explains the general mechanism as well as the regio- and stereoselectivity of the discussed reactions • characterizes the advantages and disadvantages of modern techniques of the organic syntheses discussed during the lecture • defines the terms related to a synthesis and a retrosynthesis
	Skills Skills The student: critically analyzes the possibility of using a selected chemical reaction to obtain the desired intermediate product; designs the optimal routes of multi-step syntheses; predicts the structure of products, based on the structure of substrates and the applied reaction conditions; predicts the side reactions that may obstacle obtaining the right product from the given substrates; proposes methods to solve common problems encountered during the synthesis, purification and analysis of organic compounds assesses the risks associated with a given type of a reaction and suggests precautions that will enable to safely carry out the desired chemical conversions
	Social competence Social competence The student: gets involved in a team work in solving project-type tasks; discusses in a group the methods of solving synthetic problems; presents the group's proposed solutions of synthetic problems

Contact

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