



Projekt współfinansowany przez Unię Europejską w ramach Europejskiego Funduszu Społecznego



NA NA	Arodowa strategia spójności		ego Fundusz ecznego	FUNDUSZ SPOŁECZNY ** * **		
Course title				ECTS code		
Monographic lecture - Peptides and proteins in science and industry				13.3.1000		
Name of unit administ						
null						
Studies						
faculty	field of study	type drugiego sto		pnia		
Wydział Chemii	Chemia	form stacjonarne		P-10-		
			wszystkie			
specialization wszystkie			wszystkie			
Teaching staff						
dr hab. Elżbieta Kam	ysz, profesor uczelni					
Forms of classes, the realization and number of hours				ECTS credits		
Forms of classes				3		
Lecture				classes - 30 h		
The realization of activities				tutorial classes – 10 h		
classroom instruction				student's own work – 35 h		
Number of hours						
Lecture: 30 hours				Total: 75 h - 3 ECTS		
The academic cycle						
2023/2024 winter sen	nester					
Type of course	Langua	Language of instruction				
obligatory	polish	polish				
Teaching methods			Form and method of assessment and basic criteria for eveluation or examination requirements			
- multimedia-based le	Final ev	Final evaluation				
- problem-focused led	Grad	Graded credit				
	Assess	Assessment methods				
	- stud	- student presentation				
		- (mid-term / end-term) test				
	The bas	The basic criteria for evaluation				
	Written te	Written test consisting of test questions and open tasks,				
	covering t	covering the lecture material.				
		Oral assessment - supplement of the written test, but only for those students who				
		obtained from the written test up to 5% below the level that allows receiving the next higher grade. Assessment of the test according to the scale of grades given in the Study				
	-	Regulations.				
	1 -	Additional written test for students who did not obtain the required 51% in the first				
	term.					
		The final grade is determined on the basis of partial grades according to the following				
				rules: 75% of the final grade is the mark of the test, 25% of the final grade is the grade of the student presentation.		
Method of verifying required learning outcomes						
	introductory requireme					
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A. Formal requirements

General and organic chemistry

B. Prerequisites

none

Wykład monograficzny - Peptydy i białka w nauce i przemyśle #13.3.1000

Sylabusy - Centrum Informatyczne UG



Aims of education

familiarize students with the issues mentioned in the lecture's program content.

Course contents

Structure of the peptide bond and the structures of peptides and proteins; division of peptides and proteins; nomenclature and stereochemistry of peptides; methods of obtaining peptides on a laboratory and industrial scale; techniques for isolating and purifying peptides and proteins; a database of proteins and bioactive peptides; structure and importance of peptides and proteins in medicine, pharmacy, cosmetology and food industry (e.g. peptide drugs, peptide cosmetics ingredients, biologically and functionally active peptides, bioactive sequences derived from food proteins, etc.)

Bibliography of literature

Literature required to pass the course

Aminokwasy, peptydy, białka, H. D. Jakubke, H . Jeschkeit.(PWN).

Peptides: Chemistry and Biology, N. Sewald H. D. Jakubke, (WILEY-VCH)

Biologicznie aktywne peptydy i białka żywności, J. Dziuba, Ł. Fornal (WNT)

Fmoc Solid Phase Peptide Synthesis, W. Chan and Peter White, Oxford University Press, U.S.A.

Białka i peptydy, S. Doonan. (PWN)

Extracurricular readings

Principles of Peptide Synthesis, M. Bodanszky, Springer-Verlag, Berlin Heilderberg

The World of Peptides, T. Wieland, M. Bodanszky, Springer-Verlag, Berlin Heidelberg

Chemia organiczna, R. T. Morrison, R.N. Boyd.

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

Knowledge

presents the structure of peptides and proteins,

knows the rules for naming peptides,

is able to characterize the main techniques for obtaining and purifying peptides and

compares different methods of peptide synthesis,

knows the basic databases on the subject of peptides and proteins,

knows and understands the possibilities of using peptides and proteins for scientific and industrial purposes,

lists applications of peptides and proteins in medicine, pharmacy, cosmetology and food industry.

Skills

In a clear way, both in speech and in writing, presents correct reasoning regarding protein and peptide chemistry.

Recognizes the basic equipment used for the synthesis and purification of peptides and can select the appropriate equipment for carrying out chemical experiments.

Social competence

feels the fundamental role of peptides and proteins in human and mammalian life, understands the need to learn about peptides and proteins,

is careful in dealing with chemical substances (strong acids, alkalis, condensing agents and others).

can predict and properly plan the necessary personal protective equipment.

Contact

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