


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 - Peptides and proteins in science and industry		13.3.1108	
Name of unit administrating study			
null			
Studies			
faculty	field of study	type	drugiego stopnia
Wydział Chemii	Biznes chemiczny	form	stacjonarne
		specjalty	wszystkie
		specialization	wszystkie
Teaching staff			
dr hab. Elżbieta Kamysz, 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		Total: 75 h - 3 ECTS	
Lecture: 30 hours			
The academic cycle			
2023/2024 winter semester			
Type of course		Language of instruction	
obligatory		polish	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
- multimedia-based lecture - problem-focused lecture		Final evaluation	
		Graded credit	
		Assessment methods	
		- student presentation - (mid-term / end-term) test	
		The basic criteria for evaluation	
		Written test consisting of test questions and open tasks, 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.	
		• 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			
Required courses and introductory requirements			
A. Formal requirements			
General and organic chemistry			
B. Prerequisites			
none			

Aims of education	
Aims of education familiarize students with the issues mentioned in the lecture's program content.	
Course contents	
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	
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 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 proteins, 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 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 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 elzbieta.kamysz@ug.edu.pl	