

Subject card

Subject name and code	Food chemistry, PG_00080778						
Field of study	Chemical Business						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2028/2029		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Jolanta Kumirska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	15		2.0		8.0	25
Subject objectives	To introduce students knowledge on the chemical composition of food and the structure of the main food raw materials, as well as the functions of nutrients, food additives and other compounds that shape the health quality of food products.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[BCHINŻ_W06] Enumerates basic unit processes and describes issues in the field of technology and chemical engineering.		Student knows the most important food ingredients twch influence on the quality of products nutritional; describes their physical, chemical and biological properties. Student explains selected basic transformations occuring during storage and processing of raw materials and food products.		[SW4] test/exam - oral or written		
	[BCHINŻ_W07] Describes the construction and operating principles of basic scientific, technological and control-measuring apparatus.		Students describes the construction and operating principles of selected control-measuring apparatus used in food chemistry.		[SW4] test/exam - oral or written		
	[BCHINŻ_U08] Uses the chemical nomenclature and engineering terminology properly.		Student discusses issues related to food chemistry using actually chemical nomenclature and engineering terminology.		[SU1] oral statement/conversation/discussion [SU4] test/exam - oral or written		

Subject contents	Topics of the lecture: Chemical composition of food. Physical, chemical and biological properties of food ingredients, food additives and food contamination. Transformation of these compounds during storage and processing of raw materials and food products. The role of individual components in creating sensory attributes of food products. Understanding some of the mechanisms and effects of chemical and biochemical reactions taking place in food on the sensory properties and health quality of food products.		
Prerequisites and co-requisites	lack Convergent to: organic chemistry, analytical chemistry		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	the sum of points from a written test covering the scope of material covered during lectures and laboratory exercises, including an assessment of the student's activity during the lecture (max. 10%)	51.0%	100.0%
Recommended reading	Basic literature	Praca zbiorowa pod redakcją Sikorski Zdzisław E. Chemia Żywności, Wyd. 6, WNT, Warszawa, 2012. Praca zbiorowa pod redakcją Górską Agata, Łobacz Marta, Ćwiczenia laboratoryjne z chemii żywności Wydawnictwo SGGW, 2009. Rutkowska Jarosława, Przewodnik do ćwiczeń z chemii żywności. Wydawnictwo SGGW, Warszawa 2008. Zdzisław Sikorski, Hanna Staroszczyk, Chemia żywności Tom 1 Główne składniki żywności, Wydawnictwo Naukowe PWN, Warszawa, 2017. Hanna Staroszczyk, Zdzisław Sikorski, Chemia żywności Tom 2 Biologiczne właściwości składników żywności. Wydawnictwo Naukowe PWN, Warszawa, 2017. Agata Witczak, Zdzisław E. Sikorski. Szkodliwe substancje w żywności Pochodzenie, działanie, zagrożenia zdrowotne. Wydawca: PWN, 2020.	
	Supplementary literature	Śmiechowska Maria, Przybyłowski Piotr, Chemia żywności z elementami biochemii. Wydaw. Akademii Morskiej w Gdyni, Gdynia 2004. Grajek Włodzimierz; Baer-Dubowska Wanda Przeciwwutleniacze w żywności : aspekty zdrowotne, technologiczne, molekularne i analityczne. Wydawnictwa Naukowo-Techniczne, Warszawa 2007. Małecka Maria (red.), Wybrane metody analizy żywności, Wydawnictwo Akademii Ekonomicznej w Poznaniu, Poznań, 2003	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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