University of Gdańsk

Subject card

Subject name and code	Food chemistry, PG_00080779		
Field of study	Chemical Business		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2027/2028
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	3.0
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	0.0	0.0	45.0	0.0	0.0	45

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	45	8.0	22.0	75

Subject objectives

To introduce students with information 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 which sharpe the health quality of food products.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BCHINŻ_U03] Plans, selects the appropriate research and measuring equipment and performs simple chemical experiments; analyses the results and draws conclusions based on them.	Student follows established procedures during analyes of ingredients raw materials for food production and the quality of food products; analyses the results and draws conclusions based on them.	[SU2] presentation/project/paper/ report [SU3] text preparation/written work [SU8] observation of student's independent or team work
[BCHINŻ_W07] Describes the construction and operating principles of basic scientific, technological and control-measuring apparatus.	Student describes the construction and operating principles of selected control-measuring apparatus used in food chemistry.	[SW2] presentation/project/paper/ report [SW3] text preparation/written work
[BCHINŻ_K04] Demonstrates responsibility for the safety of her/ his own and others' work.	Student demonstrates responsibility for the safety of her/ his own and others' work, is careful working with chemical substances, and is prudent working with scientific equipment during laboratory classes.	[SK8] observation of student's independent or team work
[BCHINŻ_K02] Works individually demonstrating initiative and independence in actions, and effectively cooperates in a team, performing various roles in it.	Student demonstrates responsibility for the safety of her/ his own and others' work.	[SK8] observation of student's independent or team work
[BCHINŻ_W06] Enumerates basic unit processes and describes issues in the field of technology and chemical engineering.	Student knows the most important food ingredients which infuence on the quality of nutritional products; describes their physical, chemical and biological properties. Student explains selected basic transformations occurring during the storage and processing of raw materials and food products.	[SW2] presentation/project/paper/ report [SW3] text preparation/written work
[BCHINŻ_U08] Uses the chemical nomenclature and engineering terminology properly.	Student discusses issues related to food chemistry and uses the chemical nomenclature and engineering terminology properly	[SU2] presentation/project/paper/ report [SU3] text preparation/written work [SU8] observation of student's independent or team work

Subject contents

A series of laboratory exercises concentrated on consolidating knowledge and skills in the field of knowledge of the chemical composition of food and physico-chemical transformations occurring in raw materials and food products during their storage and processing.

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 grade will be a weighted average of the grades from the final test on all laboratory material (40%), partial tests (40%) and reports. (20%)	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 Górska 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 Przeciwutleniacze 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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