University of Gdańsk

Subject card

Subject name and code	Food Chemistry, PG_00081947		
Field of study	Chemistry		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish
Semester of study	4	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

Additional information:

Performance of experiments using analytical and instrumental methods / analysis of experimental results combined with their discussion

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 about the chemical composition of food and its structure food raw materials, with particular emphasis on chemical structure and physicochemical properties and the broadly understood functions of nutrients, food additives and other compounds influencing the health quality of food products.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[CHEML3_W05] Has basic knowledge of the chemical specialisation studied.	Student explains some of the changes that occur during storage and processing raw materials and food products. Student describes the role that individual components play in creating features sensory food products. Student illustrates the impact of selected food processing parameters on the functional properties of food ingredients.	[SW2] presentation/project/paper/ report [SW3] text preparation/written work
[CHEML3_K08] Formulates opinions in the field of science with caution and criticism in their expression.	Student formulates opinions in the field of food chemistry with caution and criticism in their expression	[SK2] presentation/project/paper/ report [SK8] observation of student's independent or team work
[CHEML3_K07] Appreciates the need for understandable presentation of selected chemical issues to the public.	Student needs further education. Student appreciates the need to present selected issues in the field of food chemistry in an accessible way.	[SK2] presentation/project/paper/ report [SK8] observation of student's independent or team work
[CHEML3_W03] Explains the relationship between the structure of matter and its observed properties.	Student knows the most important food ingredients that influence on the quality of food products. Student describes the physical, chemical and biological properties of food ingredients, food additives and food contamination.	[SW2] presentation/project/paper/ report [SW3] text preparation/written work
[CHEML3_U03] Selects the appropriate equipment and laboratory apparatus for conducting uncomplicated chemical experiments.	Student selects appropriate equipment and follows established procedures during analyzing the composition of raw materials for food production and the quality of food products.	[SU3] text preparation/written work [SU6] demonstration of practical skills [SU8] observation of student's independent or team work
[CHEML3_U02] Performs analyses using experimental methods and draws conclusions based on them.	Student demonstrates the ability to detect basic ingredients food, selected food contaminants and some food adulterations.	[SU2] presentation/project/paper/ report [SU3] text preparation/written work [SU8] observation of student's independent or team work
[CHEML3_U01] Identifies, analyses and solves problems in the field of broadly understood chemistry on the basis of the acquired knowledge.	Student discusses issues related to food chemistry. Student can explain some of the changes that occur during the storage and processing of raw materials and food products	[SU2] presentation/project/paper/ report [SU3] text preparation/written work [SU8] observation of student's independent or team work

Subject contents

Laboratory:

A cycle of laboratory exercises concering 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 covering all the material laboratory exercises (40%), partial tests (40%) and reports (20%).	51.0%	100.0%

Recommended reading	Basic literature	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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