

**Subject card**

<b>Subject name and code</b>	Protection of the Stored Food, PG_00082062						
<b>Field of study</b>	Chemistry						
<b>Date of commencement of studies</b>	October 2024	<b>Academic year of realisation of subject</b>			2026/2027		
<b>Education level</b>	Bachelor's studies	<b>Subject group</b>			Obligatory subject group in the field of study		
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	3	<b>Language of instruction</b>			Polish		
<b>Semester of study</b>	5	<b>ECTS credits</b>			1.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>			credit		
<b>Conducting unit</b>	Laboratory of Natural Products Analysis -> Department of Environmental Analysis -> Faculty of Chemistry -> Rector						
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		dr hab. Marek Gołębiowski				
	<b>Teachers</b>						
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	15.0	0.0	0.0	0.0	0.0	15
	E-learning hours included: 0.0						
	Additional information: multimedia-based lecture						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	<b>Number of study hours</b>	15		2.0		8.0	25
<b>Subject objectives</b>	Knowledge of the method of preservation and storage of food Knowledge of environmental factors influencing on stored food Knowledge of the principles of food storage Knowledge about the protection of stored food Knowledge of choosing the right way to store food						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[CHEML3_K08] Formulates opinions in the field of science with caution and criticism in their expression.	1. consciously evaluate the conditions of the protection of stored food 2. evaluates the methods used to protection of stored food	[SK4] test/exam - oral or written
	[CHEML3_W04] Characterises the basic methods of chemical compound analysis.	1. understands the basic topics related to the control and evaluation of food quality 2. evaluates the methods used to protection of stored food	[SW4] test/exam - oral or written
	[CHEML3_K06] Raises her/his professional and personal competences by using information provided in various sources.	1. understands the need for further education 2. promotes the importance of protection of stored food.	[SK4] test/exam - oral or written
	[CHEML3_W05] Has basic knowledge of the chemical specialisation studied.	1. formulates opinions about the protection of stored food 2. discusses problems related to the protection of stored food	[SW4] test/exam - oral or written
	[CHEML3_U01] Identifies, analyses and solves problems in the field of broadly understood chemistry on the basis of the acquired knowledge.	1. knows and describes the basic methods used to protect stored food 2. can indicate the main health risks resulting from improper storage of food.	[SU4] test/exam - oral or written
	[CHEML3_K03] Establishes priorities in the right way for the implementation of tasks specified by herself/himself and/or by others.	1. demonstrates the ability to evaluate the methods used to protect of stored food 2. evaluates the methods used to protect of stored food	[SK4] test/exam - oral or written
	[CHEML3_W10] Enumerates and describes the basic aspects of the construction, operation and use of measuring apparatus and equipment used in experimental works in the field of chemistry and related sciences.	1. demonstrates the ability to propose methods used to protection of stored food 2. understands the basic topics related to the control and evaluation of food quality.	[SW4] test/exam - oral or written
[CHEML3_U08] Presents in an understandable way the basic facts about chemistry using a scientific language typical of chemical sciences.	1. explains to others the negative health effects caused by improper food storage 2. knows the basic principles of protection of stored food. 3. knows what changes occur in food products during food storage	[SU4] test/exam - oral or written	
Subject contents	Methods of preserving and storing of food. Types of food preservation methods. Physical methods of food preservation. Chemical methods of food preservation. Biological methods of food preservation. Preserving food with unconventional methods. Food storage. The influence of environmental factors on stored food. Changes in food during storage. The basic principles of food storage. Protection of stored food against rodents, cockroaches, flies, ants, storage pests, birds and other vertebrates. Packaging, storage and transport of food. Control and evaluation of food quality		
Prerequisites and co-requisites	Knowledge of basic topics in chemistry and major concepts in biology		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written exam with test and open questions	51.0%	100.0%
Recommended reading	Basic literature	1. Czarniecka-Skubina E. Food technology. Wydawnictwo: AB format 2010 2. Lehari Gabriele. Food storage and preservation. MULTICO 2006 3. Kołożyn-Krajewska Danuta, Tadeusz Sikora, Mieczysław Skrzypek. Towaroznawstwo, WSiP, Warszawa 1999. 4. Kumirska J., Gołębiowski M., Paszkiewicz M., Bychowska A. Food analysis, Wydawnictwo UG, Gdańsk 2010	
	Supplementary literature	1. Gruda Z., Postolski J.: Freezing food. Warszawa 1985. 2. Praca zbiorowa pod redakcją Klepacka M. Food Analysis,, Fundacja Rozwój SGGW, Warszawa 2005. 3. Łada Ewa Hanna. Basics of food processing. WSiP, Warszawa 2008 4. Kołożyn-Krajewska Danuta, Tadeusz Sikora. Towaroznawstwo żywności. WSiP 2004.	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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