SZKOŁA GŁÓWNA GOSPODARSTWA WIEJSKIEGO

General food technology

Educational subject description sheet

Basic information

Field of study Food Science - Technology and Nutrition **Speciality** - **Organizational unit** Faculty of Food Technology **Study level** first cycle (bachelor's degree) **Study form** full-time studies **Education profile** General academic	**Didactic cycle** 2023/24 **Subject code** NoZTNS_D.14.02443.23 **Lecture languages** english **Mandatory** Obligatory subjects **Block** Major subjects **Disciplines** Food technology and nutrition

Coordinator	Anna Florowska, Monika Marcinkowska-Lesiak
Teacher	Anna Florowska, Monika Marcinkowska-Lesiak

Period	**Examination**	**Number of ECTS points**
Semester 3	Exam **Activities and hours** Lecture: 30 Laboratory exercises: 45	5

Goals

Code	Goal
C1	The aim of the course is to teach students with the basic theoretical and practical issues related to raw materials, conducting technological processes in the food industry and methods of food preservation and processing.

Entry requirements

none

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge – Student knows and understands:			
W1	the basic characteristics and quality requirements of raw materials processed in the food industry	TN_K1_W03	Written exam, Test (written or computer based)
W2	the principles of operations and processes used in food technology and their impact on the quality of products	TN_K1_W04	Written exam, Test (written or computer based)
W3	the methods of food preservation	TN_K1_W06	Written exam, Test (written or computer based)
Skills – Student can:			
U1	apply basic operations and processes and choose the appropriate method of food preservation depending on the specificity of the raw material	TN_K1_U03	Report
Social competences – Student is ready to:			
K1	for the responsibility for the reliability of the conducted experiments, the obtained results, their interpretation and transfer to the society	TN_K1_K01	Report

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Basic definitions in food technology; food balance; the main tasks of the food industry; characteristics of raw materials with the requirements for food processing; contamination of the raw material and its purifying, operations and processes used in food technology: mechanical, thermal, diffusion type, physicochemical, chemical, biotechnological; methods of food preservation: freezing and cooling, heating, addition of osmoactive substances, drying, unconventional methods; auxiliary materials and techniques: food additives, washing and packaging devices, packaging, storage, control of the production process.	W1, W2, W3	Lecture
2.	Pasteurization, sterilization, freezing, thermal processing of raw materials, cleaning, grinding, centrifuging and homogenization, drying, emulsifying, extraction, coagulation and gelification, biotechnological processes.	U1, K1	Laboratory exercises

Course advanced

Activities	Methods of conducting classes
Lecture	Lecture, E-learning - lecture part
Laboratory exercises	Laboratory (experiment), learning by experiment

Activities	Examination method	Percentage
Lecture	Written exam	50%
Laboratory exercises	Report	25%
Laboratory exercises	Test (written or computer based)	25%

Activities	Credit conditions
Lecture	Obtaining a minimum of 51% of the total number of points possible to obtain in the exam.
Laboratory exercises	Obtaining a minimum of 51% of the total number of points possible to obtain in the test, and in the report.

Literature

Obligatory

1. Romain Jeantet, Thomas Croguennec, Pierre Schuck, Gérard Brulé, Handbook of Food Science and Technology 1: Food Alteration and Food Quality; ISBN: 978-1-848-21932-8 January 2016, Wiley-ISTE
2. Giuseppina P. P. LimaFabio Vianello, Food Quality, Safety and Technology; ISBN: 978-3-7091-1984-6, 2013, Springer Nature Switzerland AG
3. M. Shafiur Rahman, Handbook of Food Preservation, 2-nd. edition, ISBN 9781574446067, Published July 16, 2007 by CRC Press

Optional

1. Giuseppina P. P. LimaFabio Vianello, Food Quality, Safety and Technology; ISBN: 978-3-7091-1984-6, 2013, Springer Nature Switzerland AG
2. M. Shafiur Rahman, Handbook of Food Preservation, 2-nd. edition, ISBN 9781574446067, Published July 16, 2007 by CRC Press
3. Romain Jeantet, Thomas Croguennec, Pierre Schuck, Gérard Brulé, Handbook of Food Science and Technology 1: Food Alteration and Food Quality; ISBN: 978-1-848-21932-8 January 2016, Wiley-ISTE
4. Fellows, P.J. (Ed.), Food Processing Technology (Fourth Edition), 2017, Woodhead Publishing
5. Zeki Berk, (Ed.), Food Process Engineering and Technology (Second Edition), 2013, Academic Press

Calculation of ECTS points

Activity form	Activity hours*
Lecture	30
Laboratory exercises	45
Preparation for the exam	40
Preparation for the test	20
Preparing a report	15

Student workload	**Hours** 150
Number of ECTS points	**ECTS** 5

* hour means 45 minutes

Effects

Code	Content
TN_K1_K01	The graduate is ready to contact and exchange of experiences and knowledge with the experts in order to explore better solutions for particular problems connected to among others: food production, delivery chain, food storage and human nutrition
TN_K1_U03	The graduate can select methods and tools to make observations, measurements, and calculations in the field of phenomena occurring during processing, storage, research of food, human nutrition and consumer behaviour on the food market, and critically analyze and interpret the obtained data, assess the credibility of own actions
TN_K1_W03	The graduate knows and understands the composition and properties of raw materials, auxiliaries, food additives, and food industry products, the possibilities and conditions of use of them in food production, taking into account the principles of sustainable development and their impact on human health
TN_K1_W04	The graduate knows and understands the theoretical basis of phenomenon and changes occurring in raw materials, semi-finished products, and food products in a natural way, and under the influence of technological processes, food storage and testing
TN_K1_W06	The graduate knows and understands methods and techniques used for food processing, preservation, storage, and testing