



SZKOŁA GŁÓWNA  
GOSPODARSTWA  
WIEJSKIEGO

## New food products development

### Educational subject description sheet

#### Basic information

<b>Field of study</b> Food Science - Technology and Nutrition <b>Speciality</b> - <b>Organizational unit</b> Faculty of Food Technology <b>Study level</b> first cycle (bachelor's degree) <b>Study form</b> full-time studies <b>Education profile</b> General academic		<b>Didactic cycle</b> 2024/25 <b>Subject code</b> NoZTNS_D.18K.02452.24 <b>Lecture languages</b> english <b>Mandatory</b> Obligatory subjects <b>Block</b> Major subjects <b>Disciplines</b> Food technology and nutrition
<b>Coordinator</b>	Katarzyna Świąder	
<b>Teacher</b>	Katarzyna Świąder	
<b>Period</b> Semester 4	<b>Examination</b> Pass with grade  <b>Activities and hours</b> Lecture: 30 Laboratory exercises: 15	<b>Number of ECTS points</b> 4

#### Goals

Code	Goal
C1	To provide knowledge and skills in food product design, new trends in the food sector and the use of design thinking methods to create product ideas and respond to consumer needs. To deepen knowledge and skills in the use of nutrition and health claims in the development of functional products, the use of sensory analysis in the food development process and the development of food product formulations.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	the research methods and techniques used in the development of new and existing food products	TN_K1_W04, TN_K1_W06, TN_K1_W11	Project
W2	the characteristic of the types of product innovation and their role in modernising the food market	TN_K1_W08, TN_K1_W11	Project
<b>Skills - Student can:</b>			
U1	plan and practically carry out the process of development and marketing of a food product, select recipe ingredients, the method of packaging and preservation of the food product and prepare the information necessary for unit labelling	TN_K1_U01, TN_K1_U02, TN_K1_U03, TN_K1_U04, TN_K1_U07, TN_K1_U08	Project
U2	obtain, analyse and interpret information from a variety of sources necessary for evaluating the chances and opportunities of launching a new product and identifying consumer needs in the food market	TN_K1_U03, TN_K1_U07, TN_K1_U08	Project
<b>Social competences - Student is ready to:</b>			
K1	exchange of knowledge and team/interdisciplinary work in the preparation and implementation of the project work	TN_K1_K01	Project

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Innovation and new trends in the food sector, the use of design thinking in new product development, prototyping of selected ideas, functional foods and the use of nutrition and health claims in the functional product development process, product development case studies, the use of sensory evaluation in food design and product reformulation. Preparation of basic documentation required for product launch.	W1, W2, U1, U2, K1	Lecture, Laboratory exercises

## Course advanced

Activities	Methods of conducting classes
Lecture	Lecture, Problem solving
Laboratory exercises	Case study, Discussion, Brainstorm, Problem solving, Teamwork

Activities	Examination method	Percentage
Lecture	Project	50%
Laboratory exercises	Project	50%

Activities	Credit conditions
Lecture	Project assessment. Overall evaluation resulting from the assessment of projects taking into account the presentations - literature review, work results and their interpretation, summary and evaluation of active participation in class and timely completion of previously agreed tasks. The evaluation protocol obtained by the student in the reports on the implementation of the successive stages of the project and the final report with the prototype and its presentation.
Laboratory exercises	Project assessment. Overall evaluation resulting from the assessment of projects taking into account the presentations - literature review, work results and their interpretation, summary and evaluation of active participation in class and timely completion of previously agreed tasks. The evaluation protocol obtained by the student in the reports on the implementation of the successive stages of the project and the final report with the prototype and its presentation.

## Literature

### Obligatory

1. Methods for developing new food products an instructional guide, Fadi Aramouni, Kathryn Deschenes, 2015, Destech publication Inc
2. New Food Product Development: From Concept to Marketplace, 3rd Edition by Gordon W. Fuller, 2011, CRC Press
3. Developing New Functional Food and Nutraceutical Products, Debasis Bagchi, 2016, Elsevier Books
4. Developing New Food Products for a Changing Marketplace, 2nd Edition, Aaron L. Brody, John B. Lord, 2007, CRC Press

### Optional

1. Latest available scientific journals
2. Relevant scientific publications, including those of the module coordinator

## Calculation of ECTS points

Activity form	Activity hours*
Lecture	30
Laboratory exercises	15
Preparing a report	50
Preparation of a multimedia presentation	15
<b>Student workload</b>	<b>Hours</b> 110
<b>Number of ECTS points</b>	<b>ECTS</b> 4

\* 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_U01	The graduate can conduct experiments and solve practical issues in the field of basic sciences, and then implement them in activities carried out under directional issues in the field of food processing and human nutrition
TN_K1_U02	The graduate can assess the composition, energy and nutritional value of food products, determine their impact on the growth, development, functioning and health of the body, assess the diet, and nutritional status, and use the obtained results to rationalize the nutrition of individuals and different population groups
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_U04	The graduate can analyze and evaluate the existing solutions appropriate for the food economy, identify problems and opportunities for professional activity, search for new solutions, and ways of their implementation using modern tools, including experiments, analytical methods, computer simulations, information and communication techniques, and others
TN_K1_U07	The graduate can communicate with the surrounding using specialist terminology appropriate for the field of study, including taking part in a discussion on professional issues, also using a foreign language in the field relevant to the field of study, in accordance with the requirements set out for B2 level of the European System for the Description of Education Linguistic
TN_K1_U08	The graduate can plan, organize and carry out, independently or in a team, simple project tasks related to food production and evaluation, human nutrition, and consumer behaviour
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
TN_K1_W08	The graduate knows and understands rules and organization methods of the production and chain of food supply (planning, production organization, storage, distribution of food and food consumption in collective and individual nutrition) in accordance with the legal requirements of assurance of quality and food safety and the principles of sustainable development
TN_K1_W11	The graduate knows and understands economic, social, environmental, ethical, and legal conditions of food production and the principles of development of new products, distribution, and offering food to consumers, including basic concepts and principles in the field of protection of industrial property and copyright