SZKOŁA GŁÓWNA GOSPODARSTWA WIEJSKIEGO

Novel ingredients in food technology– blending course

Educational subject description sheet

Basic information

Field of study Course Offer for exchange students - second cycle studies, including uniform master studies (MA programmes) **Speciality** - **Organizational unit** Course Offer for exchange students **Study level** second cycle studies, including uniform master studies (MA programmes) **Study form** full-time studies **Education profile** General academic	**Didactic cycle** 2024/25 **Subject code** PWMPWM2S_D.B100000P.06396.24 **Lecture languages** english **Mandatory** Elective subjects **Block** Basic subjects **Disciplines** Food technology and nutrition

Coordinator	Małgorzata Nowacka, Katarzyna Samborska
Teacher	Małgorzata Nowacka, Katarzyna Samborska

Period	**Examination**	**Number of ECTS points**
Winter semester	Exam **Activities and hours** Lecture: 23 Project exercises: 2	4

Goals

Code	Goal
C1	The aim of the course is to broaden students' knowledge about novel ingredients which can be used in food technology. Students will familiarize with novel ingredients such as proteins from alternative sources – lab-grown meat, microalgae, plants, edible insects, polysaccharides and vitamins production, bioengineering in food industry, microorganisms as a source of lipids, proteins and amino acids. Also, the topic about novel food regulations, market research, and design thinking methodology will be presented.

Entry requirements

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Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge – Student knows and understands:			
W1	modern solutions of ingredients, which can be used to modify the properties and quality of products		Test (written or computer based)
Skills – Student can:			
U1	has the ability to select new innovative food ingredients for creating and design new food products for health-promoting purposes and distinctive sensory attractiveness		Test (written or computer based)
Social competences – Student is ready to:			
K1	is aware and understands the need for development in the field issues of the broadly understood food economy, he understands also the constant need to improve their professional qualifications in the development of innovative food products		Test (written or computer based)

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Novel ingredients which can be used in food technology such as proteins from alternative sources – lab-grown meat, microalgae, plants, edible insects, polysaccharides and vitamins production, bioengineering in food industry, microorganisms as a source of lipids, proteins and amino acids. Also, the topic about novel food regulations, market research, and design thinking methodology will be presented.	W1, U1, K1	Lecture, Project exercises

Course advanced

Activities	Methods of conducting classes
Lecture	E-learning - lecture part

Activities	Methods of conducting classes
Project exercises	E-learning - exercises part

Activities	Examination method	Percentage
Lecture	Test (written or computer based)	80%
Project exercises	Test (written or computer based)	20%

Activities	Credit conditions
Lecture	test
Project exercises	test

Literature

Obligatory

1. Pathania, S., & Tiwari, B. K. (Eds.). (2021). Food Formulation: Novel Ingredients and Processing Techniques. John Wiley & Sons.
2. Akharume, F.U., Aluko, R.E., Adedeji, A.A. Modification of plant proteins for improved functionality: A review Compr Rev Food Sci Food Saf. 2021;20:198–224
3. Pavlovic M. 2015. Bioengineering. A Conceptual Approach. Springer International Publishing A, XXV, 298, p.255.

Calculation of ECTS points

Activity form	Activity hours*
Lecture	23
Project exercises	2
Preparation for the test	75
Student workload	**Hours** 100
Number of ECTS points	**ECTS** 4

* hour means 45 minutes