

**Course name: Molecular gastronomy**

ECTS	4
Course status	basic, specialisation, optional, obligatory, facultativ
Course final assessment /evaluation of outcomes	graded credit
Prerequisite	

**Main field of study:**

Educational profile	General academic
Code of studies and education level	bachelor / master
Semester of studies	winter
Language of instruction	English

**Course offered by:**

Name of faculty offering the course	Faculty of Food Technology
Name of department offering the course	Department of Plant Products Technology and Nutrition Hygiene
Course coordinator	dr inż. Radosława Skoczeń-Słupska

**Learning outcomes:**

Symbol of outcome	Description of the learning outcome	Reference to main field of study outcomes	Area symbol*
<b>KNOWLEDGE – student knows and understands</b>			
GMO_W1	concepts, laws and methods in the field of general chemistry and food, microbiology, biochemistry and engineering graphics, adapted to the studied field, mastered at a level that allows describing and interpreting various types of phenomena and documents.	G1_W01	RT
GMO_W2	the impact of changes (biochemical, chemical, physical) on the technological and nutritional suitability of raw materials and ready meals, and also indicates and evaluates the usefulness and limitations of the use of various preservation methods and explains their impact on the durability and safety of food and beverages.	G1_W02	RT
<b>SKILLS – student is able to</b>			
GMO_U1	take standard actions, select the appropriate techniques, methods, technologies, materials and tools to solve a specific problem related to the production and storage of dishes, including their quality and safety.	G1_U06	RT
GMO_U2	use equipment and apparatus used in gastronomy technology and design recipes for dishes and produce, in accordance with the principles of good manufacturing practice, dishes and dishes with specific characteristics and dietary properties.	G1_U11	RT
<b>SOCIAL COMPETENCIES – student is ready to:</b>			
GMO_K1	critical assessment of knowledge and information obtained, recognizes the need for continuous training and improvement of professional qualifications and understanding the need for continuous personal development.	G1_K01	RT

## Teaching contents

Lectures	10 hours
Topics	Evolution of culinary techniques used in food production. A scientific approach to culinary techniques. Food pairing - the art of combining flavors. History of molecular gastronomy. Modern equipment and apparatus necessary to prepare dishes (heating media, sous-vide, siphons, liquid nitrogen). The process of emulsifying, gelling, thickening and foaming. The use of thickening, gelling, emulsifying and foaming substances in molecular gastronomy.
Accomplished learning outcomes	GMO_W1; GMO_W2
Means of verification, rules and criteria of assessment	Passing the lectures on the basis of a written credit with a grade. Participation in the final grade of the subject 50%.
Classes:	30 hours
Topics	Preparation of selected dishes in the field of molecular gastronomy, using the technique of: - foaming, emulsification, the use of emulsifiers. - spherification, production of large and small spheres - the use of selected hydrocolloids, thickening, the use of thickening substances - food pairing - the art of combining flavors, the use of edible flowers. - freezing, use of liquid nitrogen, dry ice. Making chocolate and caramel decorations.
Accomplished learning outcomes	GMO_U1; GMO_U2; GMO_K1
Means of verification, rules and criteria of assessment	Passing exercises on the basis of reports from exercises. Participation in the final grade of the subject 50%.

## References:

Basic	1. <i>training materials provided by the teacher</i> 2. E. Schenkelaars. (2010) <i>Molecular Gastronomy – Science in the Kitchen</i> . Wageningen University. (At the instructor).
Supplementary	2. Bos J., Harna R. (2015) <i>Kuchnia molekularna. Podstawowe techniki i przepisy</i>

## Structure of learning outcomes

Area of academic study: R – Agricultural, forestry and veterinary sciences	ECTS **
Area of academic study: T – technological sciences	4 ECTS**

## Structure of student activity

Contact hours	43	hrs.	1.8	ECTS**
Including:				
lectures	10	hrs.		
classes and seminars	30	hrs.		
consultations	2	hrs.		
participation in research	0	hrs.		
obligatory traineeships	0	hrs.		
participation in examination	1	hrs.		
e-learning	0	hrs.	0	ECTS**
student own work	60	hrs.	2.2	ECTS**

\*Areas of academic study in the fields of: H- humanities; S - social studies; P – biological sciences; T – technological sciences; M- medical, sport and health sciences; R – Agricultural, forestry and veterinary sciences; A – the arts

\*\* stated with an accuracy to 0.1 ECTS, where 1 ECTS = 25 - 30 hours of classes