1.	**Field of study**	**Biotechnology**
2.	Faculty	Faculty of Natural Sciences
3.	Academic year of entry	2021/2022 (winter term)
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

Module: Microbiology of food and physiology of nutrition

Module code: 2BT_29A

1. Number of the ECTS credits: 2

2. Learning outcomes of the module

code	description	learning outcomes of the programme	level of competence (scale 1-5)
2BT_29_01	Student knows and describes the evolution and diversity of gastrointestinal structure in the animal world. Can see the interrelationships between the digestive, endocrine and nervous systems. Is able to describe the manifestations of homeostasis in nutrition physiology, including apestat.	2BT_K01_P 2BT_W01_P 2BT_W02_P	4 4 4
2BT_29_02	Student can define the nutritional and energy value of food. Student can calculate energy demand. Understands processing, as well as food and feed supplementation. Is able to reliably assess the benefits and potential risks of using GMOs in nutrition. Knows groups of food additive description codes and selected examples of "E" codes.	2BT_W01_P 2BT_W02_P 2BT_W03_P	3 4 4
2BT_29_03	Student has detailed knowledge about microorganisms present in food products, sees the positive and negative consequences of its occurrence. Student is able to assess the importance of functional foods.	2BT_W01_P 2BT_W02_P 2BT_W03_P	4 4 4
2BT_29_04	Demonstrates the knowledge of modern techniques of data collection and research tools used in microbiological food control. Knows and understands the regulations on food production and its control systems, including the techniques used in the microbiological analysis of food and its processed in accordance with the recommendations of the Polish Committee for Standardization. Understands and is able to draw up a scheme of research documentation.	2BT_U01_P 2BT_U02_P 2BT_W02_P	4 4 4
2BT_29_05	Student has the ability to build a properly balanced diet, based on table data. He knows diet-related diseases. Can describe selected examples of dietary management in pathological conditions.	2BT_U01_P 2BT_U02_P 2BT_W02_P	4 4 4
2BT_29_06	Responsibly assess the risks resulting from the use of research techniques in microbial laboratory and complies with the conditions of safe operation.	2BT_K01_P 2BT_K02_P	4 4

2BT_29_07	Student is able to critically evaluate dietary information and recommendations propagated in the mass media. Student can reach reliable information, knows the most important food portals.	2BT_K01_P 2BT_K02_P	4 4

3. Module description	
Description	The course allows to acquire the ability to isolate microorganisms from food products and to identify them, in accordance with the recommendations of the Polish Committee for Standardization. Student learns about the factors that cause food poisoning and is familiarized with the HACCP system as a tool for the production of safe food. Acquires knowledge about the evolution, structure and function of the digestive tract in the animal world. Learns the scientific principles of dietetics. Learn to evaluate energy needs and nutritional status, and build a balanced diet. By participating in activating seminars enriched with multimedia lectures, student develops the skills to interpret known phenomena in scientific and practical categories.
Prerequisites	Basic knowledge of microbiology, animal physiology and biochemistry.

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
2BT_29_w01	Coursework	according to the Syllabus	2BT_29_01, 2BT_29_02, 2BT_29_03, 2BT_29_04, 2BT_29_05, 2BT_29_06, 2BT_29_07

5. Forms of teaching

code	form of teaching			required hours of student's own work		assessment of the learning outcomes of the module
	type	description (including teaching methods)	number of hours	description	number of hours	
2BT_29_fs_01	lecture	Lectures on selected topics in the field of food microbiology and physiology of nutrition with audiovisual means - computer presentations illustrating the issues.	10	Expanding knowledge through self-complementary reading scientific articles in the field indicated by the teacher.	10	2BT_29_w01
2BT_29_fs_02	laboratory classes	Working under the supervision of the lecturer - perform experiments and calculations, discussion and documentation of observations, interpretation of the results. Discussion on the topic selected by the student presented in the form of a multimedia presentation preceded by the teacher's lecture	20	Preparation for the laboratory classes on the basis of literature recommended by the lecturer. Preparation of a multimedia presentation on the topic chosen by the student.	10	2BT_29_w01