Title:	**Food Biotechnology**
Lecture hours: **Laboratory hours:**	20 h – laboratory sessions
Study period: (summer/winter)	Summer semester
Number of credits:	3
Assessment methods:	Student will receive credit for the course based on the submission of four laboratory reports on the experiments performed and the completion of a final test covering the knowledge acquired during the classes. The student may take the final test only after all laboratory reports have been successfully completed and approved. The final grade for the course will be based on the result of the final test. To pass the course, the student must obtain at least 51% of the total points on the final test.
Language of instruction:	English
Prerequisites:	English Independent User, at least B1 level, Basic knowledge of organic and inorganic chemistry, biochemistry, and biotechnology.
Course content:	Laboratories: 1. Food Biotechnology – an introductory theoretical overview covering the classification of food biotechnology and perspectives for its future development. 2. Assessment of lactic acid production kinetics in cultures of Lactobacillus spp. using titration techniques. 3. Analysis of the antioxidant properties of fermented foods. 4. Determination of vitamin C content in fermented kombucha beverages. 5. Preparation of natural yogurt using bacterial cultures.
Learning outcomes:	After completing this course, students will be able to: 1. Demonstrate familiarity with techniques for obtaining substances synthesized by microorganisms used in food biotechnology, including methods for chemical and physical analysis, and apply mathematical methods to calculate the amounts of substances produced. 2. Identify metabolic processes underlying the production of food additives and understand the purposes and applications of these products. 3. List and characterize plant and animal raw materials, their derivatives, and the biotechnological methods employed in the production of selected fermented food products. 4. Prepare detailed reports on experimental procedures, describe and analyze results and observations, and formulate appropriate conclusions.

	5. Perform assigned tasks diligently, contribute to the overall team effort, demonstrate both teamwork and independent working skills, and take responsibility for laboratory equipment and the safety of oneself and others. 6. Demonstrate awareness of the benefits and ethical considerations associated with the use of interdisciplinary biological methods and genetically modified organisms in food biotechnology.
Name of lecturer:	Joanna Dróżdż-Afelt Ph.D.
Email address:	jdrozdz@ukw.edu.pl