

# SYLLABUS

REGARDING THE QUALIFICATION CYCLE FROM 2020/2021 TO 2021/2022  
ACADEMIC YEAR 2021/2022

## 1. BASIC COURSE/MODULE INFORMATION

Course/Module title	<b>GMO in food</b>
Course/Module code *	
Faculty (name of the unit offering the field of study)	College of Natural Science
Name of the unit running the course	College of Natural Science Institute of Food Technology and Nutrition Department of Bioenergetics, Food Analysis and Microbiology
Field of study	Food technology and human nutrition
Qualification level	2 <sup>nd</sup> stage
Profile	academic
Study mode	nonstationary
Year and semester of studies	2 <sup>nd</sup> year, 3 <sup>th</sup> semester
Course type	directly
Language of instruction	English
Coordinator	Maciej Kluz PhD
Course instructor	Maciej Kluz PhD

\* - as agreed at the faculty

### 1.1. Learning format – number of hours and ECTS credits

Semester (no.)	Lectures	Classes	Colloquia	Lab classes	Seminars	Practical classes	Internships	others	ECTS credits
4	9								1

### 1.2. Course delivery methods

- conducted in a traditional way

### 1.3. Course/Module assessment (exam, pass with a grade, pass without a grade) pass with a grade

## 2. PREREQUISITES

Food chemistry, Food microbiology
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### 3. OBJECTIVES, LEARNING OUTCOMES, COURSE CONTENT, AND INSTRUCTIONAL METHODS

#### 3.1. Course/Module objectives

O1	To acquaint students with the field of food biotechnology.
O2	Provide basic knowledge in the field of modern molecular methods (cloning) used in the production of GMO food.
O3	Providing knowledge on the safety of GMO food.

#### 3.2 COURSE/MODULE LEARNING OUTCOMES (TO BE COMPLETED BY THE COORDINATOR)

Learning Outcome	The description of the learning outcome defined for the course/module	Relation to the degree programme outcomes
LO_1	Defines bioprocesses occurring in the food industry.	K_Wo3, K_Wo6
LO_2	Identifies microorganisms of biotechnological importance in food production.	K_Wo3, K_Uo6

#### 3.3 Course content (to be completed by the coordinator)

##### A. Lectures

Content outline
The importance of food biotechnology.
Prospects for the development of food biotechnology.
Molecular methods in the production of GMO food.
GMO food safety.
Examples of GMOs in food. GMO products approved for the food market.
Legal acts related to GMOs.
The importance of food biotechnology.

#### 3.4 Methods of Instruction

lecture/a lecture supported by a multimedia presentation

#### 4. Assessment techniques and criteria

##### 4.1 Methods of evaluating learning outcomes

Learning outcome	Methods of assessment of learning outcomes ( e.g. test, oral exam, written exam, project, report, observation during classes)	Learning format (lectures, classes, ...)
LO_1	pass with a grade	L
LO_2	pass with a grade	L

#### 4.2 Course assessment criteria

THE CONDITION OF GRADUATING THE COURSE IS THE ACHIEVEMENT OF ALL ASSUMED LEARNING OUTCOMES. THE NUMBER OF POINTS RECEIVED (> 50% OF THE MAXIMUM NUMBER OF POINTS):) DST 51 - 65%, DST PLUS 66 - 75%, DB 76 - 85%, DB PLUS 86 - 95%, BDD 96-100 %

#### 5. Total student workload needed to achieve the intended learning outcomes – number of hours and ECTS credits

Activity	Number of hours
Scheduled course contact hours	9
Other contact hours involving the teacher (consultation hours, examinations)	1
Non-contact hours - student's own work (preparation for classes or examinations, projects, etc.)	15
Total number of hours	25
Total number of ECTS credits	1

\* One ECTS point corresponds to 25-30 hours of total student workload

#### 6. Internships related to the course/module

Number of hours	-
Internship regulations and procedures	-

#### 7. Instructional materials

Compulsory literature:  Microalgae Biotechnology for Food, Health and High Value Products, Editors Asraful AlamJing-Liang XuZhongming Wang, Springer Nature Singapore Pte Ltd. 2020
Complementary literature:  Genetic Control of Biosynthesis and Transport of Riboflavin and Flavin Nucleotides and Construction of Robust Biotechnological Producers†  Charles A. Abbas and Andriy A. Sibirny, MICROBIOLOGY AND MOLECULAR BIOLOGY REVIEWS, June 2011, p. 321–360 Vol. 75, No. 2, 1092-2172/11/\$12.00 doi:10.1128/MMBR.00030-10

Approved by the Head of the Department or an authorised person