

DESCRIPTION OF THE COURSE OF STUDY

Course code	0912.4.LEK.D.GMO	
Name of the course in	Polish	Organizmy modyfikowane genetycznie
	English	Genetically modified organisms

1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

1.1. Field of study	Medicine
1.2. Mode of study	Full-time
1.3. Level of study	Uniform master's studies
1.4. Profile of study*	General academic
1.5. Person preparing the course description	Dr hab. Wioletta Adamus-Białek, prof. UJK
1.6. Contact	wioletta.adamus-bialek@ujk.edu.pl

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	English
2.2. Prerequisites*	Not applicable

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes	Lectures:15h (including 10 hours of e-learning)	
3.2. Place of classes	Traditional classes in the didactic room of JKU/ e-learning platform	
3.3. Form of assessment	Credit with grade	
3.4. Teaching methods	Lectures: informative lecture, conversational lecture, problem-based lecture	
3.5. Bibliography	Required reading	Genetic Modification and Food Quality, Author(s): Robert Blair, Joe M. Regenstein, last edition
	Further reading	Genetically Modified Organisms in Developing Countries ; Edited by Ademola A. Adenle, Colorado State University , E. Jane Morris, University of Leeds , Denis J. Murphy, Cambridge, Scientific articles from PubMed NCBI, last edition

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES**4.1. Course objectives (including form of classes)****Lectures**

- C1. Presentation of definitions and legal regulations in Poland and worldwide regarding GMOs
- C2. Discussion of techniques for obtaining GMOs
- C3. Discussion of techniques for detecting and monitoring GMOs in the environment (including e-learning)
- C4. Presentation of the benefits and risks associated with the creation of GM organisms
- C5. Presentation of the latest economic and financial data related to GMOs

4.2. Detailed syllabus (including form of classes)**Lectures**

- 1. History of GMOs, model organisms in genetic research.
- 2. Methods and directions for obtaining GMOs.
- 3. Methods for detecting and monitoring GMOs. (including e-learning)
- 4. Characteristics of GMOs and their applications in medicine, environmental protection, and food production.
- 5. The impact of GM organisms on the natural environment. Current status of GMO production worldwide. (e-learning)
- 6. GMO law. Genetic modification as intellectual property and its legal protection. (e-learning)

4.3 Intended learning outcomes

Code	A student, who passed the course	Relation to teaching outcomes
within the scope of KNOWLEDGE :		
W01	Knows the principles of conducting scientific research aimed at the development of medicine;	B.W26.
W02	Knows the principles of inheritance, inheritance of quantitative traits, independent inheritance of traits and inheritance of extranuclear genetic information;	C.W3.
W03	Knows the factors affecting primary and secondary genetic balance of the population;	C.W6.
within the scope of ABILITIES :		
U01	Can classify the methodology of scientific research, including distinguishing between experimental and observational studies, along with their subtypes, rank them according to the reliability of the provided results and correctly assess the quality of scientific evidence;	B.U10.
within the scope of SOCIAL COMPETENCE :		
K01	Aware noticing and recognizing own limitations and making self-assessment of deficits and educational needs;	K.S5.
K02	Aware use of objective sources of information;	K.S7.
K03	Aware formulating opinions on various aspects of professional activity;	K.S10.
K04	Aware accepting responsibility for decisions made in the course of professional activity, including in terms of one's own safety and that of others.	K.S11.

4.4. Methods of assessment of the intended learning outcomes

Teaching outcomes (code)	Method of assessment (+/-)																				
	Exam oral/written*			Test*			Project*			Effort in class*			Self- study*			Group work*			Others* Observati on		
	Form of classes			Form of classes			Form of classes			Form of classes			Form of classes			Form of classes			Form of classes		
	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...
W01-W03				+																	
U01				+																	
K01-K04																			+		

*delete as appropriate

4.5. Criteria of assessment of the intended learning outcomes

Form of classes	Grade	Criterion of assessment
lecture (L) (including e-learning)	3	Mastering the program content at a level of 61-68% of the final test
	3,5	Mastering the program content at a level of 69-76% of the final test
	4	Mastering the program content at a level of 77-84% of the final test
	4,5	Mastering the program content at a level of 85-92% of the final test
	5	Mastering the program content at a level of 93-100% of the final test

5. BALANCE OF ECTS CREDITS – STUDENT'S WORK INPUT

Category	Student's workload
	Full-time studies
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/	15
Participation in lectures*	15
Participation in classes, seminars, laboratories*	

<i>Preparation in the exam/ final test*</i>	
<i>Others*</i>	
INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/	10
<i>Preparation for the lecture*</i>	10
<i>Preparation for the classes, seminars, laboratories*</i>	
<i>Preparation for the exam/test*</i>	
<i>Gathering materials for the project/Internet query*</i>	
<i>Preparation of multimedia presentation</i>	
<i>Others*</i>	
TOTAL NUMBER OF HOURS	25
ECTS credits for the course of study	1

****delete as appropriate***

Accepted for execution (date and signatures of the teachers running the course in the given academic year)

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