**description of the course of study**

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| **Course code** | 0912-7LEK-F-8-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**

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| **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 |

1. **General characteristicS of the course of study**

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| **2.1. Language of instruction**  | English |
| **2.2. Prerequisites\*** | None |

1. **DETAILED CHARACTERISTICS OF THE COURSE OF STUDY**

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| * 1. **Form of classes**
 | Lecture- 15h (including 5 hours of e-learning) |
| * 1. **Place of classes**
 | Traditional classes in the didactic room of JKU |
| * 1. **Form of assessment**
 | Credit with grade |
| * 1. **Teaching methods**
 | Informative lecture |
| * 1. **Bibliography**
 | **Required reading** | Genetically Modified Organisms in Developing Countries ; Edited by [Ademola A. Adenle](https://www.cambridge.org/core/search?filters%5BauthorTerms%5D=Ademola%20A.%20Adenle&eventCode=SE-AU), Colorado State University , [E. Jane Morris](https://www.cambridge.org/core/search?filters%5BauthorTerms%5D=E.%20Jane%20Morris&eventCode=SE-AU), University of Leeds , [Denis J. Murphy](https://www.cambridge.org/core/search?filters%5BauthorTerms%5D=Denis%20J.%20Murphy&eventCode=SE-AU), Camvbridge July 2017Scientific articles from PubMed NCBI |
|  **Further reading** |  Genetic Modification and Food Quality, Author(s): Robert Blair, Joe M. Regenstein |

1. **Objectives, syllabus CONTENT and intended LEARNING outcomes**

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| * 1. **Course objectives *(lecture)***

C1 – learning about the benefits and risks of receiving GMOs,C2 – acquiring the knowledge in the field of techniques for obtaining transgenic organisms,C3 – acquiring the knowledge of the types of genetic modification, understanding the potential risks associated with the production and occurrence of genetically modified organisms, C4 – acquiring the knowledge on the detection of GMOs in the environment |
| * 1. **Detailed syllabus *(lecture)***
1. History of GMOs, model organisms in genetic research.
2. Methods and directions of obtaining GMOs.
3. Methods of GMO detection and monitoring.
4. Characteristics of GMOs and their application in medicine, environmental protection and food production.
5. The influence of GM organisms on the natural environment. The current state of production of GMOs in the world. (e-learning)
6. GMO law. Genetic modification as intellectual property and its legal protection. (e-learning)
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**4.3 Intended learning outcomes**

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| **Code** | **A student, who passed the course** | **Relation to teaching****outcomes** |
| within the scope of **knowledge**, the graduate knows and understands: |
| W01 | benefits and risks arising from the presence in the ecosystem of genetically modified organisms (GMOs); | C.W10. |
| within the scope of **ABILITIES**, the graduate knows how to: |
| U01 | apply dietary treatment with the consideration of enteral and parenteral feeding; | E.U25. |
| within the scope of **SOCIAL COMPETENCE**, the graduate is able to: |
| K01 | noticing and recognizing own limitations and making self-assessment of deficits and educational needs; | H.S5 |
| K02 | use of objective sources of information; | H.S7 |
| K03 | formulating opinions on various aspects of professional activity; | H.S10 |
| K04 | accepting responsibility for decisions made in the course of professional activity, including in terms of one's own safety and that of others. | H.S11 |

***\*delete as appropriate***

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| * 1. **Methods of assessment of the intended learning outcomes**
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| **Teaching** **outcomes*****(code)*** | **Method of assessment (+/-)** |
| **Exam oral/written\*** | **Test\*** | **Project\*** | **Effort** **in class\*** | **Self-study\*** | **Group work\***  | **Others\*****Observation** |
| ***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 |  |  |  | ***+*** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| U01 |  |  |  | ***+*** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K01-K04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ***+*** |  |  |

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| * 1. **Criteria of assessment of the intended learning outcomes**
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| **Form of classes** | **Grade** | **Criterion of assessment** |
|  **lecture (L)** | **3** | Test –61-68% Mastering program content at the elementary level |
| **3,5** | Test – 69-76% Mastering program content at the elementary level, systematized answers |
| **4** | Test – 77-84%. Mastering program content at the elementary level, systematized answers. Problem solving in typical situations |
| **4,5** | Test – 85-92% The scope of the presented knowledge goes beyond the basic level based on the supplementary reference literature. Solving problems in new and complex situations. |
| **5** | Test – 93-100% The scope of the presented knowledge goes beyond the basic level based on independently acquired scientific sources of information. |

* [**Thresholds**](https://pl.bab.la/slownik/angielski-polski/thresholds) **are valid from 2018/ 2019 academic year**
1. **BALANCE OF ECTS CREDITS – STUDENT’S WORK INPUT**

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| **Category** | **Student's workload** |
| **Full-time****studies** |
| *NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/* | **15** |
| *Participation in lectures\** | **10** |
| *Participation in classes, seminars, laboratories\** |  |
| *Preparation in the exam/ final test\** |  |
| *Others\** | **51** |
| *INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/* | **10** |
| *Preparation for the lecture\** | **5** |
| *Preparation for the classes, seminars, laboratories\** |  |
| *Preparation for the exam/test\** | **5** |
| *Gathering materials for the project/Internet query\** |  |
| *Preparation of multimedia presentation* |  |
| *Others\** |  |
| *TOTAL NUMBER OF HOURS* | **25** |
| ECTS credits for the course of study | **1** |

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

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1 e-learning (without participation of the lecturer)