

DESCRIPTION OF THE COURSE OF STUDY

Course code	12.6-3LEK-F-GwB	
Name of the course in	Polish	Grzyby w biotechnologii
	English	Fungi in biotechnology

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 study
1.4. Profile of study*	practical
1.5. Specialization*	lack
1.6. Unit running the course of study	Faculty of Medicine and Health Studies
1.7. Person/s preparing the course description	dr hab. Janusz Łuszczynski, prof. UJK
1.8. Person responsible for the course of study	dr hab. Janusz Łuszczynski, prof. UJK
1.9. Contact	jluszcz@ujk.kielce.pl

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Affiliation with the module	optional – faculty
2.2. Language of instruction	Facultative
2.3. Semesters in which the course of study is offered	2nd-9th
2.4. Prerequisites*	The basic knowledge of mycology, botany, taxonomy, cytology, fungal physiology, plant physiology

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes	Lecture: 15, classes: 20
3.2. Place of classes	Courses in the teaching rooms of UJK
3.3. Form of assessment	Credit with grade
3.4. Teaching methods	verbal multimedia presentations, observation, discussion
3.5. Bibliography	Required reading
	Further reading
	Mushroom Biotechnology: Developments and Applications, ISBN: 9780128027943

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED TEACHING OUTCOMES

<p>4.1. Course objectives (<i>including form of classes</i>)</p> <p>C1 – acquaint students with fungi as a group of organisms with great enzymatic opportunities;</p> <p>C2 – acquaint students with the natural disposition of fungi in the phenomena of decomposition of organic matter and the possibilities of using these abilities in the human economy;</p> <p>C3 – acquaint students with the ability of fungi to live in symbiosis with other organisms and the technical possibilities of the use of mycorrhizae in forestry and gardening;</p> <p>C4 – fungi in the economy and the life of man;</p> <p>C5 – discussion of selected problems related hazards and environmental protection with the participation of fungi</p>
<p>4.2. Detailed syllabus (<i>including form of classes</i>)</p> <p>The importance and role of fungi in selected biocenoses, significance at the individual level, population and biocenotic. Forms of coexistence of fungi with other organisms: Saprotrophism, parasitism and symbiosis. Mycorrhiza, the division of mycorrhizae and their importance for plants and fungi. Saprotrophism, the importance of nature and the human economy. Bioremediation. Parasitism and hyperparasite – the possibility of use in plant protection. Fungi properties: edible and poisonous mushrooms as well as medicinal. Mushroom poisoning and their derivatives. Cultivation of edible mushrooms and medicinal.</p>

4.3 Education outcomes in the discipline

Code	A student, who passed the course	Relation to teaching outcomes
within the scope of KNOWLEDGE:		
W01	determines benefits and risks arising from the presence in the ecosystem of genetically modified organisms (GMOs);	C.W10.
W02	knows the epidemiology of infections with viruses, bacteria as well as fungal and parasites infections, including geographical range of their occurrence;	C.W13.
W03	understands the impact of abiotic and biotic (viruses, bacteria) environmental factors on the human body and population of people and their ways of penetration into the human body; describes the implications of the human body exposure to various chemical and biological factors and prevention principles;	C.W14.
W04	knows invasive human forms or stages of development of selected parasitic fungi, protozoa, helminths and arthropods, including geographical coverage of their occurrence;	C.W15.
within the scope of ABILITIES:		
U01	assesses environmental hazards and uses basic methods allowing to detect the presence of harmful agents (biological and chemical) in the biosphere;	C.U6.
U02	applies basic laboratory techniques, such as: qualitative analysis, titration, colorimetry, pehametry, chromatography, electrophoresis of proteins and nucleic acids;	C.U9.
U03	analyses defensive and adaptation reactions as well as regulation disorders caused by the etiological factor;	C.U12.

4.4. Methods of assessment of the intended teaching outcomes

Teaching outcomes (code)	Method of assessment (+/-)																				
	Exam oral/written*			Test*			Project*			Effort in class*			Self-study*			Group work*			Others*		
	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																					
W02																					
W03																					
W04																					
U01																					
U02																					
U03																					

*delete as appropriate

4.5. Criteria of assessment of the intended teaching outcomes

Form of classes	Grade	Criterion of assessment
lecture (L)	3	61%-68%
	3,5	69%-76%
	4	77%-84%
	4,5	85%-92%
	5	93%-100%
classes (C)*	3	61%-68%
	3,5	69%-76%
	4	77%-84%
	4,5	85%-92%
	5	93%-100%

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

Category	Student's workload
	Full-time studies
<i>NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/</i>	35
<i>Participation in lectures*</i>	15
<i>Participation in classes, seminars, laboratories*</i>	20
<i>Preparation in the exam/ final test*</i>	
<i>Others*</i>	
<i>INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/</i>	15
<i>Preparation for the lecture*</i>	
<i>Preparation for the classes, seminars, laboratories*</i>	10
<i>Preparation for the exam/test*</i>	5
<i>Gathering materials for the project/Internet query*</i>	
<i>Preparation of multimedia presentation</i>	
<i>Others*</i>	
TOTAL NUMBER OF HOURS	50
ECTS credits for the course of study	2

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

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