

DESCRIPTION OF THE COURSE OF STUDY

Course code	0521.2.OŚ1.B/C13.E	
Name of the course in	Polish	<i>Ekologia</i>
	English	<i>Ecology</i>

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

1.1. Field of study	Environment Protection
1.2. Mode of study	Full-time studies/part-time studies
1.3. Level of study	Undergraduate studies
1.4. Profile of study*	General academic
1.5. Person/s preparing the course description	Dr hab. Monika Podgórska
1.6. Contact	monika.podgorska@ujk.edu.pl; tel. 41 349 6324

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	English/Polish
2.2. Prerequisites*	Basic knowledge of biology, botany, soil science

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes	Lecture – 30h Laboratory – 30h
3.2. Place of classes	Class-room based (UJK), data collection of the field (the vicinity of campus UJK)
3.3. Form of assessment	Exam/Graded assignment
3.4. Teaching methods	Lecture: expository methods (explanation, informational lecture), problematic methods (problematic lecture), exhibiting methods (demonstration); Laboratory: expository methods (explanation); exhibiting methods (demonstration); practical methods (laboratory classes, practical classes)
3.5. Bibliography	Required reading Falińska K., 2012: <i>Ekologia roślin</i> . Wydawnictwo Naukowe PWN, Warszawa. s. 512. Faliński J.B., 2000: <i>Przewodnik do długoterminowych badań ekologicznych</i> , Wydawnictwo Naukowe PWN, Warszawa. s. 672. Krebs Ch.J., 2011: <i>Ekologia</i> , Wydawnictwo Naukowe PWN, Warszawa. s.647.
	Further reading Juniper T. 2019: <i>The Ecology Book: Big Ideas Simply Explained</i> . Dorling Kindersley, <i>United Kingdom</i> . Mackenzie A., Ball A.S., Virdee S.R., 2009: <i>Ekologia. Krótkie wykłady</i> . Wydawnictwo Naukowe PWN, Warszawa. s. 427. Strzałko J., Mossór-Pietraszewska T., 2006: <i>Kompedium wiedzy o ekologii</i> . PWN, Warszawa.

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES

4.1. Course objectives (including form of classes)
Lecture:
C1. The student introduction to the problems of ecological research
C2. Transfer basic concepts of terms used in ecology; description, analysis, evaluation of the events in environmental, which are generated by human and nature
Laboratory (Classes):
C1. The student introduction to the basic methods used in ecological research
C2. Formation of skills of field observations (e.g. changes of cover degrees of plant species, permanent plots methods, phenological observations of herbal plants and trees)
C3. Formation of skills of connect theoretical and practical knowledge
C4. Formation of skills of writing projects of field observation in the correct way
4.2. Detailed syllabus (including form of classes)
Lectures:
1. Levels of the living matter organization. Characteristics of the: species, population, biocenosis, ecosystem (4h)
2. Usage of ecological regulations (Liebig's, Shelford's) (4h)

3. Knowing of parameters, which characterizing the population (4h)
4. Structure and functioning of chosen ecosystems, taking into account biotope diversity (4h)
5. Energy flow through the ecosystem (2h)
6. Analysis of fluctuations of the population size and relationship between population size and the function of time (4h)
7. Evaluation methods of population size, distribution, dispersion coefficient (4h)
8. Examination of the organisms tolerance to the environmental toxins (2h)
9. Determining of the lethal concentration and the factor toxicity measurement (2h)

Classes:

1. Analysis of the tolerance range of the chosen species (4h)
2. Impact of the environmental factors on reactions of organisms (humidity, temperature) (8h)
3. Determining the range of ecological species tolerance (4h)
4. Usage of coverage method and density methods in population analysis (12h)
5. Recognition and description of layered structure of phytocoenosis (2h)

4.3 Intended learning outcomes

Code	A student, who passed the course	Relation to learning outcomes
within the scope of KNOWLEDGE:		
W01	argues the connections between natural environment and organisms	OŚ1A-W01
W02	defines basic concepts in the field of ecology lists basic methods of the ecological research	OŚ1A-W02
W03	explains the significance of the field observations on the permanent plots explains the significance of evaluation of the organisms dynamic on the population and biocenotic level	OŚ1A-W03
within the scope of ABILITIES:		
U01	applies the appropriate methods in ecological research uses the basic mathematical and statistical methods to description natural phenomena and data analysis	OŚ1A-U01
U02	assesses the risks resulting of disturbance of biocenosis balance and its impact on organisms	OŚ1A-U01
U03	carries out field observations in the correct way with the use appropriate methods of ecological research prepares phenological spectra and research reports basis on his own field observations	OŚ1A-U01
within the scope of SOCIAL COMPETENCE:		
K01	arranges to work in a team	OŚ1A-K01
K02	is aware of ecological risks related to improper management of natural environment	OŚ1A-K01

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* e.g. standardized-test used in e-learning					
	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	x			x			x			x														
W02	x			x			x			x														
W03	x			x			x			x														
U01				x			x			x			x			x								
U02	x			x			x			x			x			x								

Handwritten signature

U03				x			x			x			x			
K01							x			x				x		
K02	x			x			x			x			x			

*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	50-65%
	3,5	66-75%
	4	76-85%
	4,5	86-95%
	5	96-100%
classes (C)* (including e-learning)	3	50-65%
	3,5	66-75%
	4	76-85%
	4,5	86-95%
	5	96-100%

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

Category	Student's workload	
	Full-time studies	Extramural studies
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/	60	60
Participation in lectures*	30	30
Participation in classes, seminars, laboratories*	30	30
INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/	40	40
Preparation for the lecture*	2	2
Preparation for the classes, seminars, laboratories*	8	8
Preparation for the exam/test*	10	10
Preparation of the project	20	20
TOTAL NUMBER OF HOURS	100	100
ECTS credits for the course of study	4	4

*delete as appropriate

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

Dr hab. Monika Podgórska

 dr hab. Monika Podgórska