

## Practical aspects of environmental conservation - part 2

### Educational subject description sheet

#### Basic information

<b>Field of study</b> Environmental Protection and Management <b>Speciality</b> - <b>Organizational unit</b> Faculty of Biology <b>Study level</b> second cycle <b>Study form</b> full-time degree programme <b>Education profile</b> General academic <b>Mandatory</b> obligatory		<b>Education cycle</b> 2021/22 <b>Subject code</b> UJ.WBIEPMS.220.00788.21 <b>Lecture languages</b> english <b>Disciplines</b> Biological sciences <b>ISCED classification</b> 0511 Biology <b>USOS code</b>
<b>Subject coordinator</b>	Izabela Wierzbowska	
<b>Lecturer</b>	Izabela Wierzbowska	
<b>Period</b> Semester 2	<b>Examination</b> assessment  <b>Activities and hours</b> Lecture: 3 Fieldwork classes: 20	<b>Number of ECTS points</b> 1.0

#### Goals

C1	The study of species diversity in relation to different environmental conditions – field work and data analysis
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	Student knows and describes different methods used in field studies for biodiversity measures	EPM_K2_W01	report, presentation, credit
W2	Student constructs key for taxonomic groups determination	EPM_K2_W08	report, presentation, credit
W3	Student explains influence of different environmental conditions on presence and distribution of species populations	EPM_K2_W02	report, presentation, credit
<b>Skills - Student can:</b>			
U1	Student evaluates data and statements using critical thinking skills	EPM_K2_U03	report, presentation, credit
U2	Student uses methods for biodiversity measures	EPM_K2_U06	report, credit
U3	Student can plan, organise and evaluate research, and write final report	EPM_K2_U05	report, credit
<b>Social competences - Student is ready for:</b>			
K1	Student cooperates in team and takes different tasks	EPM_K2_K06	report, presentation, credit
K2	Student is aware of importance of access to reliable data, knowledge and results of scientific studies	EPM_K2_K02	report, credit

### Calculation of ECTS points

Activity form	Activity hours*	
Lecture	3	
Fieldwork classes	20	
report preparation	5	
<b>Student workload</b>	<b>Hours</b> 28	<b>ECTS</b> 1.0

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes
1.	<ul style="list-style-type: none"> <li>- types of biodiversity;</li> <li>- biological diversity and environmental conditions including anthropogenic pressure;</li> <li>- biodiversity indices: dominance index, Shannon diversity index, Simpson diversity index, Evenness (equitability) index,</li> <li>- data analysis with case studies</li> </ul>	W1, W2, W3, U1, U2, U3, K1, K2

## Course advanced

### Teaching methods :

lecture with multimedia presentation, practicals

Activities	Examination methods	Credit conditions
Lecture	credit	introduction to field work
Fieldwork classes	report, presentation	Field classes: A three-day field trip. Students will work in small groups. They will work on, given by the course coordinator, group of organisms (either vascular plants or freshwater invertebrates). The students will have to determine study sites in relation to abiotic factors that can effectively influence the worked organisms. They will have to work out or find in existing literature key/s for identification of the organisms, collect raw data for further evaluation according to the instruction given by the course coordinator. The results have to be discussed with reliable scientific background based on at least 10 scientific papers. The report must comprise data evaluation, discussion and conclusions, references. Provisional results are to be shown during field trip. Attendance is obligatory. The report must be handed to the course coordinator within given time. The social competence skills will be assessed based on points given by the group members (collaboration, time management, discussion, evaluation of data will be assessed by each group member). Group work will be anonymously assessed by the team members. The evaluation form must be handed to the course coordinator. Mean number of the points will comprise 10% of the final grade. Grading and weights for each component of the course: 1) presence and active performance ; 2) group evaluation work – 10 %; 3) report – 90% To get credit for the course the following prerequisites have to be fulfilled: - attendance during field classes; - data collection and evaluation; - presentation of provisional results; - accomplishment of the report given to the course coordinator; - the evaluation form of group members handed to the coordinator together with the report; - at least 50% of total points awarded for the whole course

## Entry requirements

English competence at least at level B1

## Literature

### Obligatory

1. Henderson, P.A. Practical methods in ecology. Blackwell Publishing. Oxford, 2003

### Optional

1. Colwell, R. K. Biodiversity: concepts, patterns, and measurement. W: S. A. Levin, red. The Princeton Guide to ecology . Princeton Univ. Press, Princeton, 2009
2. Henderson, P.A. Practical methods in ecology. Blackwell Publishing. Oxford, 2003

## Effects

Code	Content
EPM_K2_K02	The graduate is able to lead discussion and present scientific arguments related to environment protection and nature
EPM_K2_K06	The graduate is able to pursue team work while assuming different roles and also is able to plan the work in terms of sharing responsibilities and managing time
EPM_K2_U03	The graduate is able to use specialist knowledge necessary to interpret collected empirical data and to draw appropriate conclusions
EPM_K2_U05	The graduate is able to write a text on environment protection issues presenting his/her own research and describe the results of his/her professional evaluations and environmental analyses
EPM_K2_U06	The graduate is able to search for, select and use necessary information found in various English language sources
EPM_K2_W01	The graduate knows and understands complexity of natural phenomena and processes and their impact on nature and environment
EPM_K2_W02	The graduate knows and understands methodology of environmental sciences, especially including valorization and evaluation of environmental risks
EPM_K2_W08	The graduate knows and understands the rules of analyzing empirical data, research results and their interpretation, as well as the rules of predicting the course of biological phenomena and processes while using relevant mathematical, statistical and computational methods