

<b>Course title</b> Ekologia/Ecology		<b>ECTS code</b> 7.2.0578	
<b>Name of unit administrating study</b>			
<b>Faculty of Chemistry</b>			
<b>Studies</b>			
<b>Field of study</b>	<b>Type</b>	<b>Form</b>	
Environmental Protection	Bachelor	Full-time studies	
<b>Teaching staff</b> Dr Agnieszka Ożarowska			
<b>Forms of classes, the realization and number of hours</b>		<b>ECTS credits</b>	
<b>A. Forms of classes, in accordance with the UG Rector's regulations</b> Lecture, indoor labs and field labs		lectures - 60 h tutorship - 15 h unassisted work of a student - 75 h TOTAL: 150 h - 6 ECTS	
<b>B. The realization of activities</b> Lectures and labs carried out indoor and in the field conditions			
<b>C. Number of hours</b> Lecture 30 h, indoor labs 15 h, field labs 15 h.			
<b>The academic cycle</b> 2019/2020 summer semester			
<b>Type of course</b> obligatory		<b>Language of instruction</b> Polish	
<b>Teaching methods</b>  Lecture including multimedia presentations  Field labs – data collection according to field methods applied in ecology  Data analyses, case studies  Simulation games  Group working		<b>Form and method of assessment and basic criteria for evaluation or examination requirements</b>  <b>A. Final evaluation, in accordance with the UG study regulations</b> Graded credit, exam  <b>B. Assessment methods</b> Test, written exam with open questions and tasks, final grade is based on component grades obtained during the semester, coursework paper based on collected data, <b>final written exam</b>  <b>D. The basic criteria for evaluation</b>  <b>Lecture:</b> • exam covers topics presented during lectures, • written exam with open and test questions scored according to percentage index (cf. „Regulations of the Study Courses at UG”) <b>Indoor laboratory</b> – final grade is based on the sum of component grades obtained during the semester (12 points) and final test (26 points). The collected number of points is recalculated into final grade based on the percentage index given in the Regulations of the Study Courses at UG. Component tests evaluate most of all systematic work of a student. Final test evaluates education outcomes in gained knowledge and skills. Moreover final grade considers also conscientiousness and activity of a student during the lectures and laboratories, i.e., includes quality of individual and group reports prepared during the course.	

**Field laboratory** – final grade is based on the reports presenting data collected during the field laboratories, their analysis and interpretation reflecting ecological relationships of the studied environment. Written reports prepared in electronic format using the Microsoft Office package (Excel, Word, Power Point) are evaluated in the accordance with the guidelines given by the lecturer and their merit content.

Final grade is an average of the grades of two reports. In case of excused absence or failure to submit the report following the aforementioned criteria, there is an option to set an additional, unassisted field task for a student and evaluate the report based on it.

**Required courses and introductory requirements**

Basic knowledge of biology

**Aims of education**

Lecture:

1. To learn and understand basic ecological processes and relationships.
2. To emphasize the relationship of ecology and other branches of science.
3. To develop awareness of human impact on nature functioning.

Indoor laboratory:

1. To understand the principles of population and ecosystem functioning based on the applied methods and case studies.
2. To understand the principles of biological resources' management.
3. To gain skills in the application of basic statistical tools to describe selected ecological states.

Field laboratory:

1. To gain skills in the selection of proper methods in plant and animal monitoring.
2. To gain skills in the perception and defining the relationships between organisms and environment.
3. To gain skills in the documentation and description of scientific data collected in the field.

**Course contents**

A. Lecture contents:

Main ecological processes at different levels of organic life. Definitions and basic ecological concepts. Ecological interactions (organism-environment, individual-individual, species-species). Relationship of ecology and other branches of science. Characteristics of selected environments, geographic and ecological issues. Anthropogenization. Introduction to applied ecology.

B. Indoor laboratory contents:

Assessment methods of basic population parameters (abundance, spatial, age and sex structure of population).

Population number dynamics. Interspecific interactions in biocenosis. Population exploitation. Ecological bioenergetics.

C. Field laboratory contents:

Methods of plant and animal population monitoring. Research of the relationship between habitat conditions

and structure of animal groups, and growth form and distribution of plants. Analysis and presentation of biological and monitoring data. Influence of meteorological conditions on organisms' distribution.

**Bibliography of literature**

**A. Literature required to pass the course**

1. Weiner J. – Życie i ewolucja biosfery. PWN W-wa 1999
2. Krebs C.J. – Ekologia – eksperymentalna analiza rozmieszczenia i liczebności. PWN W-wa 1996

**B. Extracurricular readings**

1. Begon M., Mortimer M., Thompson D.J.. Ekologia populacji : studium porównawcze zwierząt i roślin. Wydawnictwo. Naukowe PWN. 1999
2. Kozłowski S. 2000. Ekorozwój : wyzwanie XXI wieku. Wydaw. Naukowe PWN, 2000
3. Mackenzie A., Ball A.S., Virdee S.R. – Ekologia. Krótkie wykłady. PWN W-wa 2000
4. Pullin A.S.. Biologiczne podstawy ochrony przyrody. Wydawnictwo Naukowe PWN. 2004