University of Gdańsk

Subject card

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|---|---|---|---|
| Subject name and code | Geoecology - laboratories, PG_00119865 | | |
| Field of study | Geography | | |
| Date of commencement of studies | October 2024 | Academic year of realisation of subject | 2025/2026 |
| Education level | Bachelor's studies | Subject group | Obligatory subject group in the field of study<br>Subject group related to scientific research in the field of study |
| Mode of study | full-time studies | Mode of delivery | at the university |
| Year of study | 2 | Language of instruction | Polish |
| Semester of study | 4 | ECTS credits | 2.0 |
| Learning profile | academic | Assessment form | credit |
| Conducting unit | Division of Landscape and Environmental Studies -> Institute of Socio-Economic Geography and Spatial Management -> Faculty of Social Sciences -> Rector | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr Barbara Korwel Lejkowska | |
| | Teachers | | |

**Lesson types**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 0.0 | 0.0 | 10.0 | 0.0 | 0.0 | 10 |

E-learning hours included: 0.0

**Learning activity and number of study hours**

| Learning activity | Participation in didactic classes included in study plan | Participation in consultation hours | Self-study | SUM |
|---|---|---|---|---|
| Number of study hours | 10 | 12.0 | 28.0 | 50 |

**Subject objectives**

Learning about the horizontal and vertical material structure of the natural environment, the main features of the landscape.

Functioning of the environment - the processes of matter circulation and the impact on the differentiation of subordinate components.Learning about the methods and measures of analysis of the structure of the landscape and the relationship between its elements, the functioning of natural systems.Ability to assess the interrelationships between abiotic and biotic components of the environment, the use of acquired knowledge for the rational management of humans in space.

## Learning outcomes

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [GEOGRL3-K04] social action, including cooperation to preserve the ecological balance and protect the Earth's resources and its sustainable development, using forms of own entrepreneurship for this purpose | demonstrates creativity in individual and social activities, including for the preservation of ecological balance and protection of the Earth's resources, and is responsible for independent work and demonstrates readiness to submit to the rules of teamwork and bear responsibility for jointly completed tasks | [SK2] presentation/project/paper/ report |
| [GEOGRL3-U05] find and select the necessary information from professional literature and other sources, including electronic sources | draws correct conclusions on the basis of data from various sources, including cartographic sources , analyzes and organizes theoretical knowledge of geographic sciences and available sources of information to correctly interpret basic natural processes and phenomena. Edits simple thematic maps using GIS software. | [SU2] presentation/project/paper/ report |
| [GEOGRL3-W06] interactions between the natural and anthropogenic environment at different spatial and temporal scales, in particular the processes and phenomena occurring in the area of the South Baltic Coastal and Lake District and the determinants of these interactions | identifies the basic processes and phenomena occurring in the Earth's environment Earth's natural environment, and in their interpretation relies on empirical foundations, understanding the importance and application of qualitative, mathematical and statistical | [SW4] test/exam - oral or written [SW2] presentation/project/paper/ report |
| [GEOGRL3-W05] Has advanced knowledge of the environment Earth's geographic environment, understood as a unified system of interrelated and interacting each other's components; its diversity, functioning and dynamics of change, including the mutual interaction of environmental components in the area of South Baltic Coastal and Lake Districts | recognizes and names the basic information about the geographic environment of the Earth, understood as a unified system of interrelated and interacting components, and distinguishes the basic interactions between the natural and anthropogenic environment | [SW4] test/exam - oral or written [SW2] presentation/project/paper/ report |
| [GEOGRL3-U08] use scientific language and express themselves and discuss topics concerning geographic issues in Polish and in a foreign language | analyzes the causes and course of basic processes and phenomena occurring in the geographical environment | [SU2] presentation/project/paper/ report |

## Subject contents

1. To learn the basic definitions of geoecology
2. Getting acquainted with the basic methods of landscape structure analysis: the method of geocomplexes, landscape contrast analysis and selected indicators (such as abundance, area, association) -a project of several stages
3. Model of patches, matrices and corridors -basis of concept and attempt to determine units on the basis of topographic map and other sources

## Prerequisites and co-requisites

Operation of QGIS (or MapInfo or ArcGIS) and basic Office programs (Word, Excel); ability to read maps and interpret aerial photographs

## Assessment methods and criteria

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| project 2 | 51.0% | 27.0% |
| test | 51.0% | 40.0% |
| project 1 | 51.0% | 33.0% |

<table>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>• Balon J., Maciejowski W., 2012, Geoecology for landscape architects, Wyd. PK, Kraków.<br>• Chmielewski T.J., 2012, Landscape Systems, Structure - Functioning - Planning, PWN, Warszawa<br>• Malinowska E., Lewandowski W., Harasimiuk A. (eds.), 2004, Geoecology and landscape conservation -lexicon, University of Warsaw, Wyd. Przemysłowe Wema, Warszawa<br>• Pietrzak M., 1998, Landscape syntheses - assumptions, problems, applications, Bogucki Wyd. Nauk., Poznań<br>• Pietrzak M., 2010, Foundations and applications of landscape ecology - theory and methodology, PWSZ in Leszno, Leszno<br>• Richling A. (ed.), 2007, Geographical studies of the natural environment, PWN, Warszawa<br>• Richling A., Solon J., 1998, Landscape ecology, PWN, Warszawa<br>• Sołowiej D., 1992, Fundamentals of methodology of human environmental assessment, UAM, Poznań</td></tr>
<tr><td>Supplementary literature</td><td>• Bartkowski T., 1986, Applications of physical geography, PWN, Warszawa<br>• Krzymowska Kostrowicka A., 1997, Geoecology of tourism and leisure, PWN, Warszawa<br>• Korwel B., Kistowski M., 2004, Landscape structure of young glacial areas in terms of the concept of matrices, patches and corridors - a methodological study on the example of the central part of the Kashubian Lakeland, Problemy Ekologii Krajobrazu t. XIV, p.93-102.<br>• Korwel-Lejkowska B., 2005, An attempt to assess the transformation of the landscape structure of the Pruszcz Gdański municipality in 1985-2000 in the light of natural conditions, Problemy Ekologii Krajobrazu, t. XVII, p. 131-139.</td></tr>
<tr><td>eResources addresses</td><td>Basic<br>http://pbpr.pomorskie.pl/books/koncepcja-sieci-ekologicznej-wojewodztwa-pomorskiego-dla-potrzeb-planowania-przestrzennego/ - Concept of the ecological network of the Pomeranian Voivodeship<br>Supplementary<br>http://korytarze.pl/ - page with information on ecological corridors, especially animal crossings<br>http://ekorytarz.wordpress.com/ - page with information on ecological corridors, specially the preservation of ecological integrity</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">• analysis of the landscape map (map of geocomplexes)<br>• calculation of landscape contrastiveness<br>• proposal of a model of patches- matrix-corridors on the selected testing ground</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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