

## Subject card

|                                             |                                                                                              |                                                          |                                         |                                     |                   |            |     |
|---------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|-------------------------------------|-------------------|------------|-----|
| Subject name and code                       | Plant ecology, PG_00128789                                                                   |                                                          |                                         |                                     |                   |            |     |
| Field of study                              | Biology                                                                                      |                                                          |                                         |                                     |                   |            |     |
| Date of commencement of studies             | October 2023                                                                                 |                                                          | Academic year of realisation of subject |                                     | 2025/2026         |            |     |
| Education level                             | Bachelor's studies                                                                           |                                                          | Subject group                           |                                     |                   |            |     |
| Mode of study                               | full-time studies                                                                            |                                                          | Mode of delivery                        |                                     | at the university |            |     |
| Year of study                               | 3                                                                                            |                                                          | Language of instruction                 |                                     | English           |            |     |
| Semester of study                           | 6                                                                                            |                                                          | ECTS credits                            |                                     | 2.0               |            |     |
| Learning profile                            | academic                                                                                     |                                                          | Assessment form                         |                                     | credit            |            |     |
| Conducting unit                             | Department of Plant Ecology -> Faculty of Biology -> Rector                                  |                                                          |                                         |                                     |                   |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                           |                                                          | mgr Rafał Ronowski                      |                                     |                   |            |     |
|                                             | Teachers                                                                                     |                                                          | mgr Rafał Ronowski                      |                                     |                   |            |     |
| Lesson types                                | Lesson type                                                                                  | Lecture                                                  | Tutorial                                | Laboratory                          | Project           | Seminar    | SUM |
|                                             | Number of study hours                                                                        | 15.0                                                     | 0.0                                     | 0.0                                 | 0.0               | 0.0        | 15  |
|                                             | 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                                                                        | 15                                                       |                                         | 11.0                                |                   | 24.0       | 50  |
| Subject objectives                          | Provide basic knowledge of plant ecology - the structure and functioning of vegetation.      |                                                          |                                         |                                     |                   |            |     |
|                                             | Indication of the role of plants in diagnosing environmental changes in various time scales. |                                                          |                                         |                                     |                   |            |     |

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| Learning outcomes               | Course outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Subject outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Method of verification                                                                                    |
|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>B_K01 The student knows the limitations of their own knowledge and understands the need for continuous learning and development and is open to new ideas.</p> <p>B_U06 - The student can read simple scientific biological texts in Polish and simple texts in English</p> <p>B_U08 - the student is able to learn independently, in a directed manner</p> <p>B_W05 - The student knows and understands the basic principles and describes the mechanisms of life functioning at the population, biocenosis, and ecosystem levels, as well as the temporal and spatial conditions of biodiversity.</p> <p>B_W16 - the student knows and explains the relationships between the achievements of a selected field of science and natural sciences and the possibilities of their use in social and economic life, taking into account the sustainable use of biodiversity</p> | <p>[SK3] text preparation/written work</p> <p>[SK8] observation of student's independent or team work</p> |
| Subject contents                | <ul style="list-style-type: none"> <li>- Theories, ecological phenomena and processes</li> <li>- The organization of plant systems (individual, population, community, ecosystem)</li> <li>- Life strategies of plant species</li> <li>- Functional and structural diversity of vegetation</li> <li>- Application of plant ecology in the assessment of the natural and cultural environment</li> <li>- Bioindicator value of plants in the reconstructions of the long-term environmental changes</li> <li>- Plant Interactions with other groups of organisms</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                           |
| Prerequisites and co-requisites | Fundamentals of plant biology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                           |
| Assessment methods and criteria | Subject passing criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Passing threshold                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Percentage of the final grade                                                                             |
|                                 | Class attendance, essay covering the content of the lecture                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 51.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 100.0%                                                                                                    |

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|----------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recommended reading                                            | Basic literature         | <p>1. Grime J.P. 2002. Plant strategies, vegetation processes and ecosystem properties. Wiley &amp; Sons Ltd., Chichester.</p> <p>2. Maarel E., van der. 2006. Vegetation ecology. Blackwell Publ.</p> <p>3. Schulze E. D., Beck E., Buchmann N., Clemens S., MüllerHohenstein K., SchererLorenzen M. 2019. <i>Plant Ecology</i>, 2nd ed. Springer-Verlag GmbH, Germany.</p> <p>4. Alverson K.D., Bradley R.S., Pedersen T.F. 2003. Paleoclimate, Global Change and the Future. Springer, Berlin-Heidelberg-New York.</p> <p>5. Elias i in. 2005-2007. Encyclopedia of Quaternary Sciences. Elsevier.</p>                                                                                             |
|                                                                | Supplementary literature | <p>1. Silvertown J. W., Lovett Doust J. 1993. Introduction to plant population biology, 3rd edn. Blackwell Scientific Publications, Oxford.</p> <p>2. Keddy P.A. 2017. Plant Ecology. Origins, Processes, Consequences. 2nd ed., Cambridge University Press.</p> <p>3. Pugnaire F., Valladares F., eds. 2007. Handbook of Functional Plant Ecology (Books in Soils, Plants, and the Environment) 2edn. CRS Press, Taylor &amp; Francis Group.</p> <p>4. Gornitz V. (red.). 2009. Encyclopedia of paleoclimatology and ancient environments. Springer, Dordrecht, The Netherlands.</p> <p>5. Mackay A., Battarbee R., Birks J., Oldfield F. 2003. Global change in the Holocene. Arnold, New York.</p> |
|                                                                | eResources addresses     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Example issues/<br>example questions/<br>tasks being completed |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Work placement                                                 | Not applicable           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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