

## Subject card

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| Subject name and code                       | Plant Taxonomy, PG_00154434                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                          |                                         |                                     |         |                                                                                                                                                |     |
| Field of study                              | Biology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                          |                                         |                                     |         |                                                                                                                                                |     |
| Date of commencement of studies             | October 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                          | Academic year of realisation of subject |                                     |         | 2027/2028                                                                                                                                      |     |
| Education level                             | Bachelor's studies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                          | Subject group                           |                                     |         | Obligatory subject group in the field of study<br>Optional subject group<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                               | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                          | Language of instruction                 |                                     |         | Polish                                                                                                                                         |     |
| Semester of study                           | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                          | ECTS credits                            |                                     |         | 1.0                                                                                                                                            |     |
| Learning profile                            | academic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                          | Assessment form                         |                                     |         | exam                                                                                                                                           |     |
| Conducting unit                             | Laboratory of Plant Taxonomy -> Department of Plant Taxonomy and Nature Conservation -> Faculty of Biology -> Rector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                          |                                         |                                     |         |                                                                                                                                                |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                          | dr Sławomir Nowak                       |                                     |         |                                                                                                                                                |     |
|                                             | Teachers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                          |                                         |                                     |         |                                                                                                                                                |     |
| 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                                                       |                                         | 2.0                                 |         | 8.0                                                                                                                                            | 25  |
| Subject objectives                          | The purpose of the course is to introduce the student to the current state of research in plant taxonomy, including the latest research methods. To present the basics of the history of classification of organisms and artificial and natural classification systems. To familiarize the student with the code of botanical nomenclature, as well as various definitions of taxonomy. To develop the ability to use a key to identify species, as well as to understand the basics of its preparation. To develop in the student an awareness of the need to classify organisms in the context of biodiversity loss. |                                                          |                                         |                                     |         |                                                                                                                                                |     |

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| Learning outcomes               | Course outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Subject outcome                                                                                                                                   | Method of verification                                                                                                                                                                                        |
|                                 | [BIOLL3_W14] The graduate knows the theoretical basis of experimental methods and the most important techniques of the biological sciences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | student is able to perform simple phenetic and phylogenetic analyses and interpret their results                                                  | [SW4] test/exam - oral or written<br>[SW2] presentation/project/paper/report<br>[SW5] implementation of a problem task                                                                                        |
|                                 | [BIOLL3_W10] The graduate is familiar with the development and current state of knowledge and the latest trends in biology, as well as their relationship with other natural disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | student understands the impact of achievements from other fields of biology on the development of taxonomy and can give examples of them          | [SW4] test/exam - oral or written<br>[SW1] oral statement/conversation/discussion<br>[SW2] presentation/project/paper/report<br>[SW3] text preparation/written work<br>[SW5] implementation of a problem task |
|                                 | [BIOLL3_U13] The graduate is able to present their own ideas and use adequate argumentation in the context of selected theoretical and practical perspectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | student formulates independent statements in a written, graphic or oral manner, in relation to problematic taxonomic topics                       | [SU1] oral statement/conversation/discussion<br>[SU2] presentation/project/paper/report<br>[SU3] text preparation/written work<br>[SU5] implementation of a problem task                                      |
|                                 | [BIOLL3_U12] The graduates will be able to use Polish and foreign languages specific to biology in a way that is understandable and accessible to both specialists and non-specialists                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | student uses specialized language in the field of plant taxonomy and understands the concepts of this field of science both in Polish and English | [SU3] text preparation/written work<br>[SU4] test/exam - oral or written<br>[SU5] implementation of a problem task                                                                                            |
|                                 | [BIOLL3_K08] The graduate is ready to be honest, reliable and apply the principles of savoir-vivre in academic and professional work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | student prepares projects individually or in a group based on taxonomic data in an honest and reliable manner                                     | [SK2] presentation/project/paper/report<br>[SK3] text preparation/written work<br>[SK5] implementation of a problem task                                                                                      |
|                                 | [BIOLL3_K01] The graduate is prepared to evaluate their own knowledge, understand the need for continuous learning and development, and is open to new ideas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | student is aware of the changes in taxonomy over time and the impact of the development of biological sciences on these changes                   | [SK3] text preparation/written work<br>[SK4] test/exam - oral or written<br>[SK5] implementation of a problem task                                                                                            |
| Subject contents                | Scope and definition of taxonomy. The need for classification-taxonomy vs. biodiversity. Development of taxonomy: ancient classifications, Linnaean classification system, post-Linnaean natural systems, post-Darwinian phylogenetic systems. Modern methods used in the development of classification systems: phenetic (taxonometry), phylogenetic (cladistics), molecular analysis. Sources of taxonomic information (information from morphology and anatomy, cytology and cytogenetics, from reproductive systems, phytogeography, phytoecology and chemical data). The concept of predictability of the classification system. Macro- and micro-taxonomy. Functional and conservative traits. Definition of species. The ranks of intraspecies taxa. Comparability of species and higher taxonomic units. Taxonomy in the service of man. |                                                                                                                                                   |                                                                                                                                                                                                               |
| Prerequisites and co-requisites |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                   |                                                                                                                                                                                                               |
| Assessment methods and criteria | Subject passing criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Passing threshold                                                                                                                                 | Percentage of the final grade                                                                                                                                                                                 |
|                                 | Task during the course or exam                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 51.0%                                                                                                                                             | 100.0%                                                                                                                                                                                                        |
| Recommended reading             | Basic literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Stace C.A. 1993. Taksonomia roślin i biosystematyka. PWN. Warszawa                                                                                |                                                                                                                                                                                                               |

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|                                                                | Supplementary literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>Stearn W.T. 2004. Botanical Latin. 4th ed. David and Charles Publishers.</p> <p>Jeffrey, C. 1977. Biological Nomenclature (2nd. edn.). Edward Arnold Davis</p> <p>Heywood. 1963. Principles of angiosperm taxonomy. New York.</p> <p>Spalik K, &amp; Piwczyński M. 2006. Rekonstrukcja filogenezy i wnioskowanie filogenetyczne w badaniach ewolucyjnych. Kosmos 58(3-4): 485-498.</p> <p>Laneand C.E, Archibald J.M. 2008. The eukaryotic tree of life: endosymbiosis takes its TOL. Trends in Ecol. &amp; Evol. 23(5): 268-275.</p> <p>Stuessy T. 2009. Paradigms in biological classification. Taxon 58: 1707-1708.</p> |
|                                                                | eResources addresses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Example issues/<br>example questions/<br>tasks being completed | <p>Students who regularly attend lectures and complete assignments may, during the semester, pass all or selected learning outcomes prescribed for this course, which entitles them to exemption from all or part of the exam (according to the previously acquired learning outcomes). The point threshold for exemption from the exam is defined in the course regulations and announced before the beginning of the course and at the first lecture.</p> <p>Written exam with open (problem) questions (tasks). The exam covers the material from the lecture and exercises. Receipt of a positive grade from the exercises is a prerequisite for the student to take the exam.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Work placement                                                 | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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