

## Subject card

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                          |                                         |                                     |                                                                                                                      |            |     |
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| Subject name and code                       | Essential biology - classes, PG_00154220                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                          |                                         |                                     |                                                                                                                      |            |     |
| Field of study                              | Medical Biology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                          |                                         |                                     |                                                                                                                      |            |     |
| Date of commencement of studies             | October 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                          | 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                               | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                          | Language of instruction                 |                                     | Polish                                                                                                               |            |     |
| Semester of study                           | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                          | ECTS credits                            |                                     | 2.0                                                                                                                  |            |     |
| Learning profile                            | academic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                          | Assessment form                         |                                     |                                                                                                                      |            |     |
| Conducting unit                             | Laboratory of Molecular Evolution and Bioinformatics -> Department of Evolutionary Genetics and Biosystematics -> Faculty of Biology -> Rector                                                                                                                                                                                                                                                                                                                                                                                                  |                                                          |                                         |                                     |                                                                                                                      |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                          | dr Aleksandra Naczek                    |                                     |                                                                                                                      |            |     |
|                                             | Teachers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                          |                                         |                                     |                                                                                                                      |            |     |
| Lesson types                                | Lesson type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Lecture                                                  | Tutorial                                | Laboratory                          | Project                                                                                                              | Seminar    | SUM |
|                                             | Number of study hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.0                                                      | 15.0                                    | 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                                                       |                                         | 4.0                                 |                                                                                                                      | 31.0       | 50  |
| Subject objectives                          | <p>1. to learn the fundamentals of the structure, biology and classification of living organisms;</p> <p>2. to understand the biological processes determining life at different levels of its organisation;</p> <p>3. to understand the functions and importance of different groups of organisms in nature;</p> <p>4. to understand the interdependence of interactions between organisms and their environment and between these organisms and each other;</p> <p>5. to be able to recognise and classify different groups of organisms.</p> |                                                          |                                         |                                     |                                                                                                                      |            |     |

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| Learning outcomes               | Course outcome                                                                                                                                                                                                                                                                                                                                                                                             | Subject outcome                                                                                                                                          | Method of verification                                                                                                            |
|                                 | [BIOLMEDL3_W01] explains the differences in the structure and function of a prokaryotic and eukaryotic cell                                                                                                                                                                                                                                                                                                | - explains the basic concepts of biology, demonstrates the structure and functional relationships at cellular, tissue, organ and organismal level        | [SW1] oral statement/conversation/discussion<br>[SW2] presentation/project/paper/report<br>[SW3] text preparation/written work    |
|                                 | [BIOLMEDL3_U05] synthesises data from different sources and draws appropriate conclusions from them                                                                                                                                                                                                                                                                                                        | - can use specialist literature, select information, draw conclusions and express himself/herself on a given subject in the field of biological sciences | [SU1] oral statement/conversation/discussion<br>[SU2] presentation/project/paper/report<br>[SU5] implementation of a problem task |
|                                 | [BIOLMEDL3_U14] is able to prioritize and organize the work of a small team and work effectively as part of a team                                                                                                                                                                                                                                                                                         | - is able to prioritise and organise the work of a small team and work effectively work in a team                                                        | [SU1] oral statement/conversation/discussion<br>[SU2] presentation/project/paper/report<br>[SU5] implementation of a problem task |
|                                 | [BIOLMEDL3_W03] knows the structure of the animal or human organism, the processes and functional relationships at the cellular, tissue, organ and organismal levels, and explains their relationship to behavior and adaptation of the organism to changing environmental conditions                                                                                                                      | - explains the basic concepts of biology, demonstrates the structure and functional relationships at cellular, tissue, organ and organismal level        | [SW1] oral statement/conversation/discussion<br>[SW2] presentation/project/paper/report<br>[SW3] text preparation/written work    |
|                                 | [BIOLMEDL3_W04] presents the characteristics, systematics and evolution of selected groups of organisms including molecular basis and describes the basic concepts and mechanisms of evolution                                                                                                                                                                                                             | - presents the characteristics, systematics and evolution of selected groups of organisms                                                                | [SW1] oral statement/conversation/discussion<br>[SW2] presentation/project/paper/report<br>[SW3] text preparation/written work    |
| Subject contents                | <b>Exercise topics:</b><br><br>- an overview of the most important systematic groups of organisms with respect to differentiated body plans<br><br>- basics of the division of living organisms into taxa.                                                                                                                                                                                                 |                                                                                                                                                          |                                                                                                                                   |
| Prerequisites and co-requisites | Knowledge of basic biology, within the scope of secondary school.                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                          |                                                                                                                                   |
| Assessment methods and criteria | Subject passing criteria                                                                                                                                                                                                                                                                                                                                                                                   | Passing threshold                                                                                                                                        | Percentage of the final grade                                                                                                     |
|                                 | presentation                                                                                                                                                                                                                                                                                                                                                                                               | 51.0%                                                                                                                                                    | 25.0%                                                                                                                             |
|                                 | written colloquium                                                                                                                                                                                                                                                                                                                                                                                         | 51.0%                                                                                                                                                    | 50.0%                                                                                                                             |
|                                 | worksheets                                                                                                                                                                                                                                                                                                                                                                                                 | 51.0%                                                                                                                                                    | 25.0%                                                                                                                             |
| Recommended reading             | Basic literature<br><br>Futuyma DJ. 2005. Ewolucja. Wydawnictwo Uniwersytetu Warszawskiego.<br><br>Biologia Campbella. 2016. Opracowanie zbiorowe. Dom Wydawniczy Rebis.<br><br>Botanika t.2. 2005. Szwejkowska A, Szwejkowski J. PWN.<br><br>Zoologia t. 1-3. 2013. Czesław Błaszak. PWN.<br><br>Zoologia. Różnorodność i pokrewieństwa zwierząt. 2015. Weiner J. Wydawnictwo Uniwersytetu Warszawskiego. |                                                                                                                                                          |                                                                                                                                   |

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|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                | Supplementary literature                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>Kunicki-Goldfinger W.J.H. (2001): Życie bakterii. Wydawnictwo Naukowe PWN, Warszawa</p> <p>Kopcewicz J., Lewak S. (red.) (2007): Fizjologia roślin. Wydawnictwo Naukowe PWN, Warszawa</p> <p>Schmidt-Nielsen K. (2008): Fizjologia zwierząt. Adaptacja do środowiska. Wydawnictwo Naukowe PWN, Warszawa</p> <p>Weiner J. (2012): Życie i ewolucja biosfery. Podręcznik ekologii ogólnej. Wydawnictwo Naukowe PWN, Warszawa</p> <p>Jura C. (2007): Bezkręgowce. Wydawnictwo Naukowe PWN, Warszawa</p> <p>Szweykowska A., Szweykowski J. (2008): Botanika. Wydawnictwo Naukowe PWN, Warszawa</p> <p>Szarski H. (2012): Historia zwierząt kręgowych. Wydawnictwo Naukowe PWN, Warszawa</p> |
|                                                                | eResources addresses                                                                                                                                                                                                                                                                                                                                                                                                                                | Adresy na platformie eNauczanie:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Example issues/<br>example questions/<br>tasks being completed | <p>Why does the emergence of seeds represent such an important evolutionary advance?</p> <p>What features make ferns considered to be more highly evolved plants than bryophytes?</p> <p>Identify the originality of gametangioangamy and somatogamy as modes of sexual reproduction in fungi.</p> <p>How can it be explained that sponges are pre-tissue bilayers?</p> <p>How is the dorsal strut formed and what is its function in Chordata?</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Work placement                                                 | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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