

## Subject card

|                                             |                                                                                                                                                                                                                                                                                                                                                                       |                                                          |                                             |                                     |                                                                          |            |     |
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| Subject name and code                       | Animal Behaviour, PG_00154689                                                                                                                                                                                                                                                                                                                                         |                                                          |                                             |                                     |                                                                          |            |     |
| Field of study                              | Medical Biology                                                                                                                                                                                                                                                                                                                                                       |                                                          |                                             |                                     |                                                                          |            |     |
| Date of commencement of studies             | October 2025                                                                                                                                                                                                                                                                                                                                                          |                                                          | Academic year of realisation of subject     |                                     | 2026/2027                                                                |            |     |
| Education level                             | Master's studies                                                                                                                                                                                                                                                                                                                                                      |                                                          | Subject group                               |                                     | Obligatory subject group in the field of study<br>Optional subject group |            |     |
| Mode of study                               | full-time studies                                                                                                                                                                                                                                                                                                                                                     |                                                          | Mode of delivery                            |                                     | at the university                                                        |            |     |
| Year of study                               | 2                                                                                                                                                                                                                                                                                                                                                                     |                                                          | Language of instruction                     |                                     | Polish                                                                   |            |     |
| Semester of study                           | 3                                                                                                                                                                                                                                                                                                                                                                     |                                                          | ECTS credits                                |                                     | 2.0                                                                      |            |     |
| Learning profile                            | academic                                                                                                                                                                                                                                                                                                                                                              |                                                          | Assessment form                             |                                     | credit                                                                   |            |     |
| Conducting unit                             |                                                                                                                                                                                                                                                                                                                                                                       |                                                          |                                             |                                     |                                                                          |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                                                                                                                                    |                                                          | prof. dr hab. Katarzyna Wojczulanis-Jakubas |                                     |                                                                          |            |     |
|                                             | 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                                 |                                                                          | 33.0       | 50  |
| Subject objectives                          | <ul style="list-style-type: none"><li>• Students gain an updated knowledge on animal behaviour</li><li>• Students understand mechanisms driving various animal behaviours</li><li>• Students familiarizes themselves with research methodology in animal behaviour</li><li>• Students develop awarness of significance of the knowledge on animal behaviour</li></ul> |                                                          |                                             |                                     |                                                                          |            |     |

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| Learning outcomes               | Course outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Subject outcome                                                                                                                                                         | Method of verification                                                                                                                                              |
|                                 | [BIOLMEDMU2_W02] is oriented to the currently debated problems in medical biology and related disciplines                                                                                                                                                                                                                                                                                                                                                                                       | The student is aware of the latest trends in the professional literature on animal behavior.                                                                            | [SW4] test/exam - oral or written<br>[SW1] oral statement/conversation/discussion<br>[SW2] presentation/project/paper/report<br>[SW3] text preparation/written work |
|                                 | [BIOLMEDMU2_U01] can proficiently, but critically, use the scientific literature and databases necessary in the activities of medical biology and related disciplines                                                                                                                                                                                                                                                                                                                           | The student is able to find answers to questions about animal behavior using relevant literature.                                                                       | [SU1] oral statement/conversation/discussion<br>[SU2] presentation/project/paper/report<br>[SU5] implementation of a problem task                                   |
|                                 | [BIOLMEDMU2_K01] is ready to critically evaluate himself, the teams in which he works and the content he receives                                                                                                                                                                                                                                                                                                                                                                               | The student critically evaluates the performed study on animal behavior and the presentation of the results of such a study.                                            | [SK1] oral statement/conversation/discussion<br>[SK2] presentation/project/paper/report<br>[SK3] text preparation/written work                                      |
|                                 | [BIOLMEDMU2_U03] is able to formulate and solve problems on the basis of the known laws and methods, including - using computer tools and statistical methods                                                                                                                                                                                                                                                                                                                                   | The student is able to plan an experiment on animal behavior, posing a specific research question and adapting an appropriate methodology.                              | [SU1] oral statement/conversation/discussion<br>[SU2] presentation/project/paper/report<br>[SU5] implementation of a problem task                                   |
|                                 | [BIOLMEDMU2_W01] has an in-depth knowledge of scientific fields and disciplines relevant to medical biology and the studied specialty and knows their main development trends                                                                                                                                                                                                                                                                                                                   | The student is able to interpret animal behavior in the context of evolution and environmental id.                                                                      | [SW4] test/exam - oral or written<br>[SW1] oral statement/conversation/discussion                                                                                   |
|                                 | [BIOLMEDMU2_U06] knows and applies English-language specialized vocabulary of biological and medical sciences in daily professional/scientific activities                                                                                                                                                                                                                                                                                                                                       | The student understands and uses the relevant scientific terms for animal behavior.                                                                                     | [SU1] oral statement/conversation/discussion<br>[SU2] presentation/project/paper/report<br>[SU4] test/exam - oral or written                                        |
|                                 | [BIOLMEDMU2_K02] is ready to recognize the importance of knowledge in solving cognitive and practical problems and to seek expert advice when having difficulty solving a problem on his own                                                                                                                                                                                                                                                                                                    | The student recognizes the need to verify the information obtained through extensive study of the available professional literature                                     | [SK1] oral statement/conversation/discussion<br>[SK2] presentation/project/paper/report<br>[SK5] implementation of a problem task                                   |
|                                 | [BIOLMEDMU2_W05] knows the principles of practice based on scientific arguments                                                                                                                                                                                                                                                                                                                                                                                                                 | The student is able to correctly interpret animal behavior in the context of evolution and environmental conditions, without resorting to anthropomorphic explanations. | [SW4] test/exam - oral or written<br>[SW2] presentation/project/paper/report<br>[SW3] text preparation/written work                                                 |
| Subject contents                | <ul style="list-style-type: none"> <li>• Animal behaviours - description and quantification, antropomorphism.</li> <li>• Evolution of animal behaviours, Proximate and ultimate factors influencing animal behaviour.</li> <li>• Inter-individual variation in behaviour.</li> <li>• Reproductive (courtship) behaviours.</li> <li>• Animal cognition.</li> <li>• Animals personality.</li> <li>• Behavioural contagion and empathy in animals.</li> <li>• Behavioural coordination.</li> </ul> |                                                                                                                                                                         |                                                                                                                                                                     |
| Prerequisites and co-requisites | English at the level of at least B2 (course language and literature in English)                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                         |                                                                                                                                                                     |
| Assessment methods and criteria | Subject passing criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Passing threshold                                                                                                                                                       | Percentage of the final grade                                                                                                                                       |
|                                 | presentation/raport                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 51.0%                                                                                                                                                                   | 20.0%                                                                                                                                                               |
|                                 | written exam test                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 51.0%                                                                                                                                                                   | 80.0%                                                                                                                                                               |

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| Recommended reading                                            | Basic literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>Scientific papers and internet sources pointed out in the course of the lecture, including:</p> <ul style="list-style-type: none"> <li>• Wojczulanis-Jakubas K, Araya-Salas M, Jakubas D (2018) Seabird parents provision their chick in a coordinated manner. PLoS One 13:e0189969</li> <li>• Araya-Salas M, Wojczulanis-Jakubas K, Phillips EM, et al (2017) To overlap or not to overlap: context-dependent coordinated singing in lekking longbilled hermits. Anim Behav 124:. doi: 10.1016/j.anbehav.2016.12.003</li> <li>• Araya-Salas M, Gonzalez-Gomez P, Wojczulanis-Jakubas K, et al (2018) Spatial memory is as important as weapon and body size for territorial ownership in a lekking hummingbird. Sci Rep 8:. doi: 10.1038/s41598-018-20441-x</li> </ul> |
|                                                                | Supplementary literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Other scientific papers and internet sources pointed out in the course of the lecture.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                                | eResources addresses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Example issues/<br>example questions/<br>tasks being completed | <p><b>QUESTION: Which of the statements you would consider biased in terms of anthropomorphism?</b></p> <p>a) Bonobos exhibit homosexual behaviour for enhancing social bonds.</p> <p>b) A dog seeing a familiar human wags the tail, this way expressing its emotions.</p> <p>c) Cats are always happy upon reunion with familiar humans, even if they do not express it that vividly as dogs do</p> <p><b>QUESTION: A dog finding a bone which it digged down few days ago is an example of:</b></p> <p>a) recall</p> <p>b) insight</p> <p>c) conditioning</p> <p>d) none of the specified</p> <p><b>QUESTION: Coordinated singing of hermit hummingbirds is an example of:</b></p> <p>a) cooperation between individuals to decrease individual's fitness.</p> <p>b) an adaptive behaviour, adjusted to specificity of the acoustic landscap (i.e. individuals try to avoid their signals overlapping when singing in a close distance to each other).</p> <p>c) a pattern that does not really have an adaptive value but happens simply by chance.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Work placement                                                 | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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