University of Gdańsk

# Subject card

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|---|---|---|---|
| Subject name and code | Animal ecophysiology, PG_00198128 | | |
| Field of study | Natural Resources Conservation | | |
| Date of commencement of studies | October 2026 | Academic year of realisation of subject | 2028/2029 |
| 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 | 3 | Language of instruction | Polish |
| Semester of study | 5 | ECTS credits | 1.0 |
| Learning profile | academic | Assessment form | credit |
| Conducting unit | Laboratory of Avian Ecophysiology -> Department of Vertebrate Ecology and Zoology -> Faculty of Biology -> Rector | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr Grzegorz Zaniewicz | |
| | 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**

Acquiring fundamental knowledge in animal ecophysiology. Developing the ability to determine the impact of stress factors on the condition of individuals, as well as understanding daily and annual cyclical metabolic changes in organisms in relation to changes in environmental conditions and habitats.

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [OZPL3_W03] The graduate understands the physiological processes and their relationship to the organism's adaptation to changing environmental conditions | Understands the course of basic physiological processes in animals and their relationship to the organism's adaptation to changing environmental conditions (O_W03). | [SW4] test/exam - oral or written |
| [OZPL3_W09] The graduate possesses an advanced comprehension of the current state of knowledge and the latest trends in protection of natural resources, as well as their relationship to other natural disciplines | Is familiar with the development and current state of knowledge, as well as the latest trends in animal ecology and physiology, and identifies their connections with other natural science disciplines (O_W09). | [SW4] test/exam - oral or written |

**Subject contents**

Overview of basic physiological processes occurring in animal organisms (respiration, energy metabolism, digestion and absorption, thermoregulation, water-mineral regulation). A detailed discussion of the most plastic processes, which are modified depending on changing environmental conditions, e.g., the Dehnel phenomenon, daily and annual life cycles, and changes in the environment (adaptation to the environment). Respiration, oxygen transport, and organism performance/condition depending on the living environment, its requirements, sex, and age. Food, metabolic rate, and nutritional needs depending on the life cycle phase. Energy reserves and strategies for regulating their use, employed by both migratory and sedentary animals. Condition indicators. Body temperature regulation (endothermy and ectothermy) and the effects of temperature (torpor, hibernation). Stress responses behavioral and physiological changes as a reaction to stress factors.

**Prerequisites and co-requisites**

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<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td></td><td>51.0%</td><td>90.0%</td></tr>
<tr><td></td><td>85.0%</td><td>10.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Causey Whittow G. 2000. Avian Physiology. Academic Press.<br>Ewy Z. 1980. Zarys fizjologii zwierząt.<br>Krzymowski T., Przała J. 2015. Fizjologia Zwierząt. Wydawnictwo Rolnicze i Leśne.<br>Schmidt-Nielsen K. 1992. Fizjologia Zwierząt adaptacja do środowiska. Wydawnictwo Naukowe P</td></tr>
<tr><td>Supplementary literature</td><td>Hill W., Wyse G. A., Anderson M. 2016. Animal Physiology. Oxford University Press.<br>Randal D., Burggren W., French K. 2002. Eckert Animals physiology: mechanisms and adaptations. W.H. Freeman and Co.<br>Zaniewicz G., Meissner W., Ożarowska A. 2018. Estimation of fat reserves of Robins (Erithacus rubecula) migrating<br>through the southern coast of the Baltic Sea in spring. Ornis Fennica 95</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2"></td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
</table>

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