

## Subject card

|                                             |                                                                                                                                                                                                                                                              |                                                          |                                                                                                                                                         |                                     |                                                                          |            |     |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------|------------|-----|
| Subject name and code                       | Functional anatomy of the Vertebrates, PG_00146086                                                                                                                                                                                                           |                                                          |                                                                                                                                                         |                                     |                                                                          |            |     |
| 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 |            |     |
| Mode of study                               | full-time studies                                                                                                                                                                                                                                            |                                                          | Mode of delivery                                                                                                                                        |                                     | at the university                                                        |            |     |
| Year of study                               | 3                                                                                                                                                                                                                                                            |                                                          | Language of instruction                                                                                                                                 |                                     | Polish                                                                   |            |     |
| Semester of study                           | 6                                                                                                                                                                                                                                                            |                                                          | ECTS credits                                                                                                                                            |                                     | 1.0                                                                      |            |     |
| Learning profile                            | academic                                                                                                                                                                                                                                                     |                                                          | Assessment form                                                                                                                                         |                                     | credit                                                                   |            |     |
| Conducting unit                             | Faculty of Biology -> Rector                                                                                                                                                                                                                                 |                                                          |                                                                                                                                                         |                                     |                                                                          |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                           |                                                          | prof. dr hab. Magdalena Remisiewicz                                                                                                                     |                                     |                                                                          |            |     |
|                                             | 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                          | Understanding the relationship between the structure and function of systems and internal organs in vertebrates in the context of adaptation to the environment.                                                                                             |                                                          |                                                                                                                                                         |                                     |                                                                          |            |     |
| Learning outcomes                           | Course outcome                                                                                                                                                                                                                                               |                                                          | Subject outcome                                                                                                                                         |                                     | Method of verification                                                   |            |     |
|                                             | [BIOLL3_W07] The graduate is conversant with the types of natural environments (habitats) from a structural and functional perspective, as well as the selected species of flora and fauna of coastal areas and the methods and forms of nature conservation |                                                          | Identifies selected species of fauna and characterizes them in terms of their structural and functional aspects                                         |                                     | [SW4] test/exam - oral or written                                        |            |     |
|                                             | [BIOLL3_W05] The graduate knows the rules and describe the mechanisms of life at the population, biocenosis and ecosystem levels and the temporal and spatial determinants of biodiversity                                                                   |                                                          | Explains the basic mechanisms of vertebrate functioning                                                                                                 |                                     | [SW4] test/exam - oral or written                                        |            |     |
|                                             | [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                                                                       |                                                          | Can use specialized Polish and foreign language terminology in biology in a understandable and accessible way for both specialists and non-specialists. |                                     | [SU4] test/exam - oral or written                                        |            |     |

|                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |
|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Subject contents                                               | Anatomical adaptations of the musculoskeletal system in vertebrates to the environment and lifestyle. Homology of anatomical elements of the musculoskeletal system and the relationship between their structure and function in various groups of vertebrates: axial skeleton and limb skeleton. Anatomical features of the oral apparatus in vertebrates from different groups and their functional adaptation to feeding habits. Anatomical adaptations of the digestive system in vertebrates to feeding habits. The connection between the function and anatomy of the respiratory system in vertebrates with the environment and lifestyle of vertebrates. Structure and adaptation of the circulatory system to the living environment of vertebrates from different groups |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |
| Prerequisites and co-requisites                                | none                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |
| Assessment methods and criteria                                | Subject passing criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Passing threshold                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Percentage of the final grade |
|                                                                | Test with open questions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 51.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 100.0%                        |
| Recommended reading                                            | Basic literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <div>1. Liem K. Bemis W, Walker W. F. Grande L. 2001. Functional Anatomy of the Vertebrates: An Evolutionary Perspective. Thomson Brooks/Cole.</div> <div>2. Kardong K. V. Vertebrates; comparative anatomy, function, evolution. 2005. McGraw-Hill Science/Engineering/Math</div> <div>3. Nowakowski J.K., Szulc J., Remisiewicz M. 2014. The further the flight, the longer the wing: relationship between wing length and migratory distance in Old World reed and bush Warblers (Acrocephalidae and Locustellidae). Ornis Fennica 91: 178-186.</div> |                               |
|                                                                | Supplementary literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <div>1. Kapitt. W., Elson L. M. 2022. The Anatomy Coloring Book. Waltham, Massachusetts, United States</div>                                                                                                                                                                                                                                                                                                                                                                                                                                             |                               |
|                                                                | eResources addresses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |
| Example issues/<br>example questions/<br>tasks being completed | Anatomical adaptations of the musculoskeletal system in vertebrates to the environment and lifestyle. Homology of anatomical elements of the musculoskeletal system and the relationship between their structure and function in various groups of vertebrates: axial skeleton and limb skeleton. Anatomical features of the oral apparatus in vertebrates from different groups and their functional adaptation to feeding habits. Anatomical adaptations of the digestive system in vertebrates to feeding habits. The connection between the function and anatomy of the respiratory system in vertebrates with the environment and lifestyle of vertebrates. Structure and adaptation of the circulatory system to the living environment of vertebrates from different groups |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |
| Work placement                                                 | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |

Document generated electronically. Does not require a seal or signature.