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|----|--------------------------------|--|
| 1. | Field of study                 | Biology  |
| 2. | Faculty                        | Faculty of Natural Sciences                      |
| 3. | Academic year of entry         | 2023/2024 (winter term), 2024/2025 (winter term) |
| 4. | Level of qualifications/degree | first-cycle studies                              |
| 5. | Degree profile                 | general academic                                 |
| 6. | Mode of study                  | full-time  |

|   |                                      |  |
|---|--------------------------------------|--|
| 7.  | General information about the module |  |
| Module name   |                                      | Evolutionary diversity of selected vertebrate organs   |
| Module code   |                                      | 1BL_23_40  |
| Number of the ECTS credits  |                                      | 3  |
| Language of instruction   |                                      |  |
| Purpose and description of the content of education                               |                                      | The module aims to expand knowledge on the structure and evolution of selected organs and internal systems of vertebrates, emphasising their changes in phylogeny. During laboratory classes, the student acquires the ability to analyze and interpret macro- and microscopic preparations and prepares documentation based on the observations |
| List of modules that must be completed before starting this module (if necessary) |                                      | not applicable   |

| 8.        | Learning outcomes of the module   |                                    |                                |  |
|-----------|---|------------------------------------|--------------------------------|--|
| Code      | Description   | Learning outcomes of the programme | Level of competenc (scale 1-5) |  |
| 1BL_K01_P | understands the importance of knowledge in problem-solving, can critically appraise existing knowledge and is ready to seek expert advice when facing difficulties in solving a problem independently   | 1BL_K01                            | 4                              |  |
| 1BL_U04_P | can communicate using specialized terminology appropriate to biological sciences and related fields   | 1BL_U04                            | 5                              |  |
| 1BL_U09_P | presents the results of their independent work in the form of reports, papers and essays, and can prepare documentation of the exercises carried out independently.   | 1BL_U09                            | 5                              |  |
| 1BL_W03_P | has advanced knowledge of the differences in the structure of prokaryotic and eukaryotic cells, the most important functional relationships both between cellular components and between cells, as well as knowledge about the organization of tissues, organs and functional relationships between them. | 1BL_W03                            | 4                              |  |
| 1BL_W06_P | has advanced knowledge of phylogenetic issues and evolutionary processes, and directions  | 1BL_W06                            | 4                              |  |

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| 9. | Methods of conducting classes |                         |  |
|    | Code                          | Category                | Name (description)   |
|    | b01                           | Problem-solving methods | Problem-based lecture<br><i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i> |
|    | b04                           | Problem-solving methods | Activating method – discussion / debate  |

|     |                          |   |
|-----|--------------------------|---|
|     |                          | <i>an exchange of views supported by substantive arguments leading to a clash of different views, a compromise or the identification of common positions; it proceeds according to previously agreed-upon rules regarding the time, manner and turn-taking as well as the principles of civil discourse; a discussion is not a competition but aims at finding the best solutions or presenting different points of view; its varieties include brainstorming, Oxford-style debate, panel discussion, decision tree, conference discussion; a debate is an orderly dispute between supporters and opponents of a viewpoint, usually specialists in the field or pre-selected representatives of a group dealing with a common problem</i> |
| c06 | Demonstration methods    | <b>Demonstration-imitation</b><br><i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</i>   |
| c07 | Demonstration methods    | <b>Screen presentation</b><br><i>a presentation of synthetic image content using computer graphics, e.g., a series of slides or other multimedia forms, usually accompanied by a commentary; typical components of a screen presentation include text organized into bulleted points, charts, images and animations, sometimes sound effects or music; a multimedia illustration of course content presented in the form of a projected image</i>   |
| e01 | Practical methods        | <b>Laboratory exercise / experiment</b><br><i>[also conducted as fieldwork] a method of practical application of knowledge; implemented in three stages: the recognition of a problem induced by the task content, the formulation of the problem and the attempt to solve it accompanied by the assessment of the effects; the goal is to acquire skills, abilities and habits, and to consolidate the acquired knowledge so that it becomes operational; the laboratory method assumes greater independence of learners than carrying out an experiment</i>   |
| e06 | Practical methods        | <b>Observation</b><br><i>also conducted as fieldwork; a method of watching phenomena, objects or people in a systematic/planned way in order to gain knowledge about them; perceptual separation of elements of a model action as an element of learning through imitation; a complex system of cognition based on sensory experiences</i>  |
| f01 | Methods of self-learning | <b>Self-education</b><br><i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>   |

| <b>10. Forms of teaching</b> |                    |                        |  |  |                                      |
|------------------------------|--------------------|------------------------|--|--|--------------------------------------|
| <b>Code</b>                  | <b>Name</b>        | <b>Number of hours</b> | <b>Assessment of the learning outcomes of the module</b> | <b>Learning outcomes of the module</b>     | <b>Methods of conducting classes</b> |
| k                            | discussion classes | 19                     | course work  | 1BL_K01_P, 1BL_U04_P, 1BL_W03_P, 1BL_W06_P | b04, c07, f01                        |
| L                            | laboratory classes | 18                     | course work  | 1BL_U04_P, 1BL_U09_P, 1BL_W06_P            | c06, e01, e06                        |
| w                            | lecture            | 8                      | course work  | 1BL_K01_P, 1BL_U04_P, 1BL_W03_P, 1BL_W06_P | b01, f01                             |

| <b>11. The student's work, apart from participation in classes, includes in particular:</b> |                         |  |                                |
|---|-------------------------|--|--------------------------------|
| <b>Code</b>   | <b>Category</b>         | <b>Name (description)</b>  | <b>Is it part of the BUNA?</b> |
| a01   | Preparation for classes | Search for materials and review activities necessary for class participation<br><i>reviewing literature, documentation, tools and materials as well as the specifics of the syllabus and the</i> | Yes                            |

|     |   |  |     |
|-----|---|--|-----|
|     |   | <i>range of activities indicated in it as required for full participation in classes</i>   |     |
| a03 | Preparation for classes   | Developing practical skills<br><i>activities involving the repetition, refinement and consolidation of practical skills, including those developed during previous classes or new skills necessary for the implementation of subsequent elements of the curriculum (as preparation for class participation)</i>  | Yes |
| a04 | Preparation for classes   | Consulting materials complementary to those indicated in the syllabus<br><i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>   | Yes |
| b01 | Consulting the curriculum and the organization of classes       | Getting acquainted with the syllabus content<br><i>reading through the syllabus and getting acquainted with its content</i>  | Yes |
| b02 | Consulting the curriculum and the organization of classes       | Verification / adjustment / discussion of syllabus provisions<br><i>consulting the content of the syllabus, possibly in the presence of the year tutor or members of the class group, and, if necessary, reassessing the provisions concerning special conditions for class participation, e.g., space and time requirements, technical and other requirements, including conditions for participation in classes outside the walls of the university, classes organized in blocks, organized online, etc.</i> | Yes |
| d01 | Consulting the results of the verification of learning outcomes | Analysis of the corrective feedback provided by the academic teacher on the results of the verification of learning outcomes<br><i>reading through the academic teacher's comments, assessments and opinions on the implementation of the task aimed at checking the level of the achieved learning outcomes</i>   | Yes |

Information on the details of the module implementation in a given academic year can be found in the syllabus available in the USOS system: <https://usosweb.us.edu.pl>.