

(Table 5.2) Course unit description

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| Study program: Biology | | | | |
| Type and level of studies: Undergraduate academy study – I level of studies | | | | |
| Course unit: Invertebrate Zoology 1 | | | | |
| Teacher in charge: Filip Vukajlović, PhD | | | | |
| Language of instruction: English | | | | |
| ECTS: 8 | | | | |
| Prerequisites: / | | | | |
| Semester: Winter semester | | | | |
| Course unit objective Introducing students to the morphological and anatomical structure of various groups of invertebrates, their taxonomic diversity, basic principles of body organization, reproduction, life cycles, distribution, and significance in the living world. Understanding the importance of structural organization and functional adaptations of invertebrates. | | | | |
| Learning outcomes of Course unit Students have acquired fundamental knowledge of the morphology and anatomy of invertebrates, enabling them to understand the significance of adaptive features in invertebrate adaptation to their environment, as well as the roles invertebrates play in ecosystems and their interactions with other ecosystem components. They have learned to recognize diagnostic characteristics that allow them to identify major taxonomic groups. Students have also become familiar with the importance of invertebrates to humans. Through practical work, students have mastered the basics of laboratory techniques and have been trained for both independent and teamwork. The knowledge gained will facilitate a better understanding of the content covered in advanced zoology courses. | | | | |
| Course unit contents <i>Theoretical classes:</i> Characteristics of living organisms. Classification of the living world. Zoology as a biological discipline and its subdivisions. Animal symmetry. Metamerism. Cephalization. Principles of animal classification. Systematic categories. Basic structural characteristics of the animal cell. Protista – heterotrophic holozoic protists (Protozoa) and heterotrophic Chromista. Basic structural features. Division into phyla and the most important representatives. Kingdom Animalia (Metazoa) – general characteristics, fundamentals of ontogenetic development, theories on the origin of multicellular animals. Morphological and anatomical characteristics of invertebrate phyla; increasing complexity of body structure and functional organization; reproduction (asexual and sexual) and developmental cycles; significance for humans (parasites, etc.); classification. Phyla: Placozoa, Porifera, Cnidaria, Ctenophora. Subkingdom Bilateria – infrakingdoms Protostomia and Deuterostomia. Infrakingdom Protostomia – phyla: Chaetognatha, Orthonectida, Rhombozoa; supertype Lophotrochozoa (= Spiralia) including the phyla: Acanthocephala, Annelida, Brachiopoda, Bryozoa, Cycliophora, Entoprocta, Gastrotricha, Gnathostomulida, Micrognathozoa, Mollusca, Nemertea (= Nemertina), Phoronida, Platyhelminthes, Rotifera, Sipuncula. <i>Practical classes:</i> Practical classes thematically follow the theoretical classes. They include familiarization with the morphological and anatomical structures of the phyla covered in the theoretical part of the course, as well as with characteristic representatives of selected phyla discussed during the lectures. | | | | |
| Literature Hickman C., Keen S., Eisenhour, D., Larson A., l'Anson, H. Integrated Principles of Zoology. 18 th Edition. McGraw-Hill Education, 2019. Nielsen C. Animal Evolution. Interrelationships of the living phyla. Third Edition. Oxford University Press. 2012. Mitrovski Bogdanović A., Vukajlović F. Invertebrate Zoology lab practicum 1, unauthorized script, Kragujevac, 2025 | | | | |
| Number of active teaching hours | | | | |
| Lectures: 45 | Practice: 45 | Other forms of classes: 0 | Independent work: 0 | Other classes: 0 |

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| Teaching methods | | | |
| Power point presentations, video clips, seminars, consultations, laboratory and field work. | | | |
| Examination methods (maximum 100 points) | | | |
| Exam prerequisites | No. of points | Final exam | No. of points |
| Activities at lectures | 5 | Oral examination | 30 |
| Activities in practical classes | 5 | | |
| Theoretical classes tests | 15+15 | | |
| Practical classes tests | 15+15 | | |
| Grading system | | | |
| Grade | No. of points | Description | |
| 10 | >= 91 | Excellent | |
| 9 | 81-90 | Exceptionally good | |
| 8 | 71-80 | Very good | |
| 7 | 61-70 | Good | |
| 6 | 51-60 | Passing | |
| 5 | <=50 | Failing | |