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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Sciences and MathematicsDepartment of Biology and Ecology |
| **GENERAL INFORMATION** |
| Study program  | Biology |
| Study Module (if applicable) | / |
| Course title | Advance course of animal physiology |
| Level of study | [ ] Bachelor [ ]  Master’s [x]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | first |
| Number of ECTS allocated | 7 |
| Name of lecturer/lecturers | Ljubiša Đorđević |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [ ]  Project work [x]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Introduction to the latest discoveries in the field of human physiology. Recognition of physiological systems specificities. Indicating the importance of homeostasis and its regulation. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Functional organization of the human body. Cell as a physiological unit. Membrane transport. Cellular communications. Bioelectric phenomena. The excitable tissues. Nerves. Muscles. Body fluids. Homeostasis. Homeostasis defense systems. Neuroendocrine control of homeostasis. Cardiovascular system. Properties of the heart muscle. Working capacity of the heart. Regulation of heart rate. Blood pressure and its regulation. Physiology of blood. Physiology of respiration: the functional structure of the respiratory system; mechanics of breathing. Transport role of blood. Respiratory regulation of acid-base balance. Energetics of breathing. Physiology of the gastrointestinal system. The kinetics of digestive enzymes. Energetic metabolism. Metabolic processes in organism. Aerobic and anaerobic metabolism. Neuroendocrine control mechanisms of metabolic processes. Thermoregulation. First and second law of thermodynamics. The importance of endotermy. Thermoregulation disorders. Hyperthermia and hypothermia. Heat stress. Cryophysiology. The role of the nervous system. |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [ ]  English (complete course) [ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)[ ] Serbian with English mentoring [ ] Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points** | **Final exam** | **points** |
| **Activity during lectures** | **/** | **Written examination** | **/** |
| **Seminar** | **30** | **Oral examination** | **50** |
| **Teaching colloquia** | **20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |