Academic course description

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| Bachelor**Biology**2nd YEAR OF STUDY, 2nd SEMESTER |

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| **Course title** | | **General animal physiology** |
| Course code | | BC01\* |
| Course type | | full attendance |
| Course level | | 1st cycle (bachelor degree) |
| Year of study, semester | | 2nd year of study, 2nd semester |
| Number of ECTS credits | | 5 |
| Number of hours per week | | 4 (2 lecture hours + 2 seminar hours) |
| Name of lecture holder | | Lucian Hritcu |
| Name of seminar holder | | Gabriela Dumitru |
| Prerequisites | | Advanced level of English |
| A | **General and course-specific competences** | |
|  | **General competences**:   * Developing documentation reports on the analysis of the biological systems characteristics in terms of organization and functioning principles of the living world. * Critical evaluation of the interpretation of scientific information from the perspective of the principles of organization and functioning of the living world. * Developing the capacity for critical-constructive reflection on one's own level of professional training in relation to the standards of the profession. * **Course-specific competences**: * to prepare reports on the organization and functioning of the living world; * to identify notions, principles, usual methods necessary for the morphological, structural and physiological characterization of living organisms; * to interpret the specialized scientific information from the perspective of the principles of organization and functioning of the living world; * to interpret the specialized scientific information from the perspective of the principles of organization and functioning of the living world; * to explain the use of models and algorithms in the knowledge of biological systems. | |
| B | **Learning outcomes** | |
|  | * Developing documentation reports on the analysis of the biological systems characteristics in terms of organization and functioning principles of the living world. * Critical evaluation of the scientific information interpretation from the perspective of the principles of organization and functioning of the living world. * Explaining the characteristics of biological systems from the perspective of the principles of organization and functioning of living matter. * Interpretation of specialized scientific information from the perspective of the principles of organization and functioning of the living world. * Explaining the use of equipments/ tools, techniques / working methods for investigating biological systems. | |
| C | **Lecture content** | |
|  | Bioelectric activity. Membrane potentials  Muscle physiology  Somesthesia  Auditory sensitivity  Sense organs for balance  Optical sensitivity  Taste sensitivity  Olfactory sensitivity  Physiology of the endocrine system  Nutrition functions  Physiology of male and female reproductive systems | |
| D | **Recommended reading for lectures** | |
|  | 1. L. Hriţcu, V.Hefco, Elemente de fiziologia animalelor şi a omului. Funcţii de relaţie, Ed. PIM (acreditată CNCSIS, cod CNCSIS 66), 2007 2. L. Hrițcu. Fiziologia animalelor şi a omului – sistemul endocrin, reproducerea şi funcţiile de nutriţie. Editura Tehnopress (acreditată CNCSIS, cod CNCSIS 89), Iasi, 2008, ISBN 978-973-702-580-1, 392 pagini 3. Hefco V, Fiziologia animalelor si a omului, Ed. Didactica si Pedagogica, Bucuresti, 1998 4. Guyton, A.C., Textbook of Medical Physiology. W.B. Saunders Comp., Philadelphia, London, Toronto, Tokyo, 2006. 5. Smith, C.U.M., Elements of molecular neurobiology. John Wiley & Sons, LTD., West Sussex, England, Third edition, 2002. 6. Hritcu L. 2011, Neurofiziologie – Rolul unor neurotransmițători și zone nervoase în modularea proceselor cognitive și imunitare, Editura Universității ”Alexandru Ioan Cuza” din Iași, ISBN 978-973-640-670-6, 231 pagini. | |
| E | **Seminar content** | |
|  | Labor protection norms in the animal physiology laboratory  Muscle extensibility and elasticity  Recording and analysis of gastrocnemius muscle shake. Tetanic contractions  Demonstration of bioelectrical phenomena in animal tissues: contraction without metal; secondary tetanus  Determining the reflex time. The laws of medullary exteroceptive reflexes  Mechanoceptive, thermal, painful, gustatory, auditory, visual sensitivity  Functional properties of the heart muscle: contractility, excitability, cardiac automatism  Perfusion of the frog heart and the influence of electrolytes and hormones on the activity of the heart  Blood pressure and pulse in humans | |
| F | **Recommended reading for seminars** | |
|  | 1. Hefco, V., 1976, Fiziologie experimentală; funcţiile de relaţie (culegere de lucrări practice), Univ.”Alexandru Ioan Cuza” Iaşi, 183 pag.; 2. Hefco, V., 1977, Fiziologie experimentală: Respiraţia; Digestia; Metabolismul; Excreţia; Sistemul endocrin Culegere de lucrări practice), Univ.“Al. I. Cuza” Iaşi 3. Hritcu L. 2012, Fiziologie animală experimentală, , Editura Universităţii „Alexandru Ioan Cuza” din Iaşi, ISBN: 978-973-703-849-4, 130 p. 4. Misăilă, C., Dumitru, Gabriela, 2010, Fiziologia animalelor şi a omului – Lucrări practice, Ed. Tehnopress Iaşi, 210 p 5. Melnic, B., Crivoi, A., 1991, Compendiu de lucrări practice de fiziologia omului şi a animalelor, Ed. Lumina, Chişinău | |
| G | **Education style** | |
| learning and teaching methods | | systematic exposure; conversation; didactic demonstration |
| assessment methods | | Exam |
| Language of instruction | | English |