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.
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| 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.
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| C | **Lecture content** |
|  | Bioelectric activity. Membrane potentialsMuscle physiologySomesthesiaAuditory sensitivitySense organs for balanceOptical sensitivityTaste sensitivityOlfactory sensitivityPhysiology of the endocrine systemNutrition functionsPhysiology 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.
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| E | **Seminar content** |
|  | Labor protection norms in the animal physiology laboratoryMuscle extensibility and elasticityRecording and analysis of gastrocnemius muscle shake. Tetanic contractionsDemonstration of bioelectrical phenomena in animal tissues: contraction without metal; secondary tetanusDetermining the reflex time. The laws of medullary exteroceptive reflexesMechanoceptive, thermal, painful, gustatory, auditory, visual sensitivityFunctional properties of the heart muscle: contractility, excitability, cardiac automatismPerfusion of the frog heart and the influence of electrolytes and hormones on the activity of the heartBlood 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
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| G | **Education style** |
| learning and teaching methods | systematic exposure; conversation; didactic demonstration |
| assessment methods | Exam |
| Language of instruction | English |