

Table 5.2 Course specification

Type and level of studies: bachelor			
Course name: Biochemistry of Hormones (IB-402)			
Course status: elective			
Number of ECTS credits: 6			
Requirement: none			
Course aim Provide students with broad and balanced knowledge of the key concepts of endocrine system functioning. Develop practical skills necessary for understanding and independent solving problems in the field of biochemistry of hormones using a standard methodology.			
Course outcome After successful completion of this course the student is able to 1) explain the concepts related to intercellular communication and the maintenance of homeostasis, 2) define the metabolic role of individual tissues and hormones in physiological and / or pathological processes in the body, 3) describe the structure of certain hormones and processes by which they synthesize and secrete, 4) explain the mechanism of action of certain hormones, 5) analyze the connection between catabolic and anabolic processes, 6) explain the regulation of metabolic pathways, 7) applies the standard experimental methods used in the study of metabolism			
Course content <i>Theory</i> Organization of neuro-endocrine system, intercellular communication, regulation of synthesis and secretion of hormones. Division of hormones by the origin, chemical structure, location and mechanism of action. Hormone receptors: receptors in the cell membrane and in the cell. Target tissues. Secondary and tertiary messengers. Hormones of hypothalamus, pituitary, pineal, thyroid, adrenal and parathyroid glands, hormones that regulate the metabolism of calcium and phosphate, sex hormones, pancreas, kidney, gastro-intestinal tract hormones (structure, types, mechanism of action, target tissues, the physiological effects). <i>Practice: Practical classes, OFT, SRW</i> Detection of the structure of certain hormones; Determination of steroid hormone content by ELISA and RIA assays; Determination of thyroid and pituitary hormone content; Reproductive tissue efficacy testing.			
Literature 1. Goodman H M (2003): <i>Basic Medical Endocrinology</i> , Oxford University Press. 2. Krauss G (2005): <i>Biochemistry of Signal Transduction and Regulation</i> , WILEY-VCH. 3. Rushton L (2004): <i>Endocrine System</i> , Chelsea House Publishers. 4. Jameson J L, Braunwalde E, Fauci A S, Hauser S L, Longo D L (2006) <i>Endocrinology and Metabolism</i> , McGraw-Hill Companies. 5. http://themedicalbiochemistrypage.org 6. Review and original scientific articles			
Number of classes of active teaching			Other classes
Lectures: 3	Practice: 2	OFT: SRW:	
Teaching methods Lectures, laboratory work, seminar			
Assessment of knowledge (maximum of 100 points)			
Pre-exam obligations	Points	Final exam	Points
activity during lecture classes	10	written exam	40
practical teaching	30	oral exam	20