



4.00 credits

40.0 h + 10.0 h

Q2

Teacher(s)	Clotman Frédéric (compensates Knoops Bernard) ;Dumont Patrick ;Dumont Patrick (compensates Knoops Bernard) ;Gofflot Françoise ;Knoops Bernard ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	To follow this course, it is necessary to master the knowledge and skills developed in the courses LBIO1112 and LBIO1234A
Learning outcomes	<p>At the end of this learning unit, the student is able to :</p> <p>1 To establish the bases in biochemistry, physiology and histology, the main animal tissues will be studied, emphasis being put on mammalian tissues. Certain notions in cellular biology will also be deepened with the objective of integrating morphological, physiological and biochemical aspects in cellular processes.</p>
Evaluation methods	<p>Written examination. The questions will correspond to the subject of the different parts of the course, i.e. the nervous system, the sense organs, the endocrine system and the locomotor apparatus, including the teaching of practical work.</p> <p>The final mark will be calculated from marks obtained from theory and practical. Theory will provide 17 points out of 20 and practical will amount 3 points out of 20. Marks for theory will correspond to the arithmetical mean of the notes obtained for the 4 sections.</p>
Teaching methods	<i>Ex cathedra</i> classes, remote classes, practical work.
Content	<p>In this first part of the "Integrated biology of organisms" courses, we aim at providing a global view of the 2 major systems involved in maintaining body homeostasis: the nervous system and the endocrine system. The organs that ensure external stimuli reception (sense organs) and those generating the integrated response of the body (locomotor apparatus) will be viewed in the context of these 2 major control systems.</p> <p>This teaching unit will include,</p> <ol style="list-style-type: none"> 1. For the part of the study of the nervous system: <ol style="list-style-type: none"> A. General introduction B. Neuronal communication C. Motor control 2. For the part dealing with sensory reception: <ol style="list-style-type: none"> A. the chemical senses <ul style="list-style-type: none"> the olfactory mucosa taste buds B. The eye and vision C. The ear and the auditory and vestibular systems 3. For the part of the study of the endocrine system: <ol style="list-style-type: none"> A. Introduction <ul style="list-style-type: none"> Overall view of the endocrine system The different types of hormones Mechanisms of hormonal action Endocrine regulation: important concepts B. The main endocrine glands <ul style="list-style-type: none"> Hypothalamus and pituitary gland Thyroid The parathyroid glands The endocrine pancreas The epiphysis (pineal gland) The adrenal 4. For the locomotor system :

	<p>A. Skelettal muscles : Organization of the skeletal muscles</p> <p>B. Skeleton : Axial skeleton Belts</p> <p>The organs / structures of the different systems taught in the lectures will be illustrated during practical sessions thanks to the observation and analysis of histological sections.</p>
Inline resources	Course Powerpoints available on Moodle.
Bibliography	Ouvrages de référence : Neurosciences (Purves <i>et al</i> , éditions de Boeck). Pour la partie relative au système endocrinien: Précis de Physiologie Médicale (Guyton & Hall ; Piccin Nuova Libreria); The endocrine System (Hinson, Raven & Chew ; Elsevier). Ouvrages conseillés, non indispensables.
Other infos	Presence in practical work is mandatory. The holders of the course may, under the article 72 of the General Regulations for Studies and Examinations, propose to the jury to oppose the registration of a student who has not attended to the various sessions of the practical works (without justification), for the January, June or September sessions.
Faculty or entity in charge	BIOL

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Biochemistry and Molecular and Cell Biology	BBMC2M	4		
Bachelor in Biology	BIOL1BA	4		
Minor in Biology	MINBIOL	4		