UCLouvain

lbio1232a

2018

2 credits	20.0 h + 20.0 h	Q1

Teacher(s)	Knoops Bernard ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	*The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Main themes	BIO1232A 1. Epitheliums: characteristics and general properties of the epithelial cell. Epithelial differentiation and structure-function relations. Epitheliums and their regional differentiation (tegument, respiratory tract, intestine). Glands and their secretion functions (exocrine glands: salivary glands, liver, pancreas). 2. Connective tissues: description of the extracellular matrix components and of the cellular microenvironment. Differentiation and origin of connective tissues. The adipose tissue. Cartilage and bone tissue, the chondro-and ostoeogenesis. 3. Hematopoietic tissues and the blood: formation, differentiation, origin of blood cells; structure and function of blood cells; introduction to immune reaction. 4. Muscle tissue: smooth muscle, skeletal muscle and cardiac muscle; cellular aspects of contraction and regulation mechanisms. 5. The nervous tissue: the neuron, synapse and neuronal network; transport of information, glial cells and their function in protecting and cooperating with neurons. BIO1232B Electric and chemical synapses; slow and fast synapses; transduction mechanisms; post-synaptic potential; inversion potential; nervous integration; smooth, skeletal and cardiac muscles; molecular aspects of the contractile mechanism; regulation of contractions strength; cardiac cells regulation.
Aims	*The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Evaluation methods	LBIO1232A : oral or written examination during the session. Practical exercices : evaluation throughout the year. LBIO1232B : oral or written examination during the session.
Teaching methods	LBIO1232A : lectures and practical exercises/labs LBIO1232B : lectures
Content	BIO1232A Functional histology of mammalian tissues including epitheliums, glands, connective tissues, adipose tissue, cartilage, bone tissue, hematopoietic tissues, blood, smooth muscle, skeletal muscle, cardiac muscle, peripheral nervous system and central nervous system. Also, examination of tissues from different organs will be carried out during assisted works. BIO1232B Lectures will provide information on the physiology of neurons and contractile cells through the analysis of experimental set-ups and data that allowed to understand the physiology of these cells.
Inline resources	LBIO1232A : https://moodleucl.uclouvain.be/course/view.php?id=9944 LBIO1232B : https://moodleucl.uclouvain.be/course/view.php?id=9404
Bibliography	• Diapositives du cours disponibles sur Moodle UCL (format pdf) / Slides available online (Moodle UCL) in pdf format LBIO1232A : Atlas d'Histologie Fonctionnelle de Wheater (Edition De Boeck) LBIO1232B : Précis de Physiologie Médicale - Guyton & Hall.
Other infos	BIO1232A Prerequisite : Knowledge in cell and animal biology (Bac1). Evaluation : theorical and practical examination. Support : powerpoint with the theory available on i-Campus. Atlas of functional histology. Atlases and histology books are available at the library. BIO1232B Prerequisite : Knowledge in cell excitability (Biophysics LBIO1261, Bac2). Evaluation : theoretical examination. Support : powerpoint with the theory available on i-Campus. Reference textbooks are available at the University library.
Faculty or entity in charge	BIOL

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Bachelor in Veterinary Medicine	VETE1BA	2	LBIO1111	
Bachelor in Biology	BIOL1BA	2	LBIO1111 AND LBIO1112	
Minor in Biology	LBIOL100I	2		