BIOL2113 Histology and animal cell biology

[30h+18h exercises] 5 credits

This course is taught in the 1st semester

Teacher(s):	Bernard Knoops (coord.), Philippe van den Bosch Sanchez de Aguilar
Language:	French
Level:	Second cycle

Aims

Establish the morphological and functional bases of general histology and of the main tissues of animals, emphasis on Mammals.

Main themes

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). The exchanges through the epitheliums (endothelium, kidney epithelium). Dynamics and proliferation of epitheliums. 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.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Assisted work: examination of tissues from different organs; introduction to macroscopic anatomy.
Support: reference book or syllabus; atlas of histology illustrating the main tissues by photon and electron microscopy.

Programmes in which this activity is taught

VETE1	Candidature en médecine vétérinaire		

Other credits in programs

BIOL21/A	Première licence en sciences biologiques (Biologie moléculaire, cellulaire et humaine)		Mandatory
BIOL21/B	Première licence en sciences biologiques (Biologie des organismes et des populations)		Mandatory
VETE12BA	Deuxième année de bachelier en médecine vétérinaire	(2 credits)	Mandatory