

[30h+30h exercices] 4 credits

This course is taught in the 1st semester

Teacher(s): Claude Remacle, Yves-Jacques Schneider
Language: french
Level: 2nd cycle course

Aims

To outline the main phenomenas of cellular physiology, insisting on the experimental approaches necessary to their analysis, and exploiting the specialised litterature of cellular biology efficiently.

Main themes

The main themes concern the control of proliferation, then the progressive and terminal differentiation, including senescence. They are illustrated with a cellular model (for example, an endocrin cell) used as a basis to explain the invervention of hormones, growth factors, receptors, inner-cell communication paths, oncogenes, extracellular matrix... The data is put into place in the normal fonctionning and in malfunctionning of the organ and organism (15h). The methodologic approach (15h) gives a large part to the study of "in vitro" culture (cellular environment, culture conditions, contaminations, explantations, cycle control, synchronization, cloning, etc.), to the morphologic and molecular analysis techniques (autoradiography, cytoenzymology, cytoimmunology, stereology). Assisted work : the exercices (15h) include demonstrations and the practice of basic techniques that have not been discovered by other courses. The seminaries (15h) consist of preparation of an oral presentation of a few specialized articles (2-3). The seminarie sessions are focused on a theme and enlarge it to other cellular types than the one used at first.

Other credits in programs

BIOL22/A	Deuxième licence en sciences biologiques (Biologie moléculaire, cellulaire et humaine)	(4 credits)
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