UCLouvain

lbirc2101

2020

Biochemical analysis

Due to the COVID-19 crisis, the information below is subject to change, in particular that concerning the teaching mode (presential, distance or in a comodal or hybrid format).

4 credits	22.5 h + 30.0 h	Q1

Teacher(s)	Chaumont François ;Morsomme Pierre (coordinator) ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	This course covers classic methods used to purify biological macromolecules et determine their identity and biochemical properties. Practicals illustrate standard techniques used in analytical biochemistry.
Aims	a. Contribution de l'activité au référentiel AA (AA du programme) 1.1, 1.3 2.1, 2.2 3.6, 3.7, 3.8 6.4, 6.5 b. Formulation spécifique pour cette activité des AA du programme By the end of this course, the student is expected: 1 - To explain the main techniques of genetic engineering - To be able to use basic methodologies of genetic engineering - To explain the main techniques of analytical biochemistry - To be able to use the basic methodologies of analytical biochemistry - To analyze experimental data with a critical mind - To be able to compare various methodologies and propose the most adequate to address a practical problem of genetic engineering or analytical biochemistry - - - - *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	**Due to the COVID-19 crisis, the information in this section is particularly likely to change.** An exam will be performed at the end of the practicals to assess the comprehension of the methodologies used (25% of the final score). An exam on the theoretical part will be organized to assess the understanding of the various concepts as well as the capacity to use these concepts to solve practical problems (75% of the final score).
Teaching methods	**Due to the COVID-19 crisis, the information in this section is particularly likely to change.** The theoretical part will be taught by the teacher using the blackboard and Power Point files. Practicals will give the students (groups of two) the opportunity to put in practice the methodologies taught in the theoretical part.
Content	Centrifugation and fractionation of cells, organelles or molecules. Protein chromatography techniques. Protein electrophoresis (1D and 2D). Light and fluorescence microscopy of proteins. Mass spectrometry analysis and sequencing of proteins. Immunodetection (ELISA, western blotting, in situ).
Inline resources	Moodle
Bibliography	Synthèse
Other infos	Participation in the practical work is mandatory. Any unjustified absence will result in a penalty on the final grade of the course. Ths course can be given in english.
Faculty or entity in charge	AGRO

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Aims
Master [60] in Biology	BIOL2M1	4		
Master [120] in Chemical and Materials Engineering	KIMA2M	4		
Master [120] in Biochemistry and Molecular and Cell Biology	BBMC2M	4		
Master [120] in Chemistry and Bioindustries	BIRC2M	4		