





4.00 credits

22.5 h + 30.0 h

Q1

Teacher(s)	Chaumont François ;Morsomme Pierre (coordinator) ;
Language :	French > English-friendly
Place of the course	Louvain-la-Neuve
Prerequisites	General biochemistry and general genetics
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.
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <p>a. Contribution de l'activité au référentiel AA (AA du programme)</p> <p>1.1, 1.3 2.1, 2.2 3.6, 3.7, 3.8 6.4, 6.5</p> <p>b. Formulation spécifique pour cette activité des AA du programme</p> <p>By the end of this course, the student is expected:</p> <p>1</p> <ul style="list-style-type: none"> <li>- To explain the main techniques of genetic engineering</li> <li>- To be able to use basic methodologies of genetic engineering</li> <li>- To explain the main techniques of analytical biochemistry</li> <li>- To be able to use the basic methodologies of analytical biochemistry</li> <li>- To analyze experimental data with a critical mind</li> <li>- To be able to compare various methodologies and propose the most adequate to address a practical problem of genetic engineering or analytical biochemistry</li> </ul>
Evaluation methods	<p>An exam will be performed at the end of the practicals to assess the comprehension of the methodologies used (25% of the final score).</p> <p>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).</p>
Teaching methods	<p>The theoretical part will be taught by the teacher using the blackboard and Power Point files.</p> <p>Practicals will give the students (groups of two) the opportunity to put in practice the methodologies taught in the theoretical part.</p>
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	<p>Participation in the practical work is mandatory. Any unjustified absence will result in a penalty on the final grade of the course.</p> <p>This course can be given in english.</p>
Faculty or entity in charge	AGRO

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Chemical and Materials Engineering	<a href="#">KIMA2M</a>	4		
Master [120] in Biochemistry and Molecular and Cell Biology	<a href="#">BBMC2M</a>	4		
Master [120] in Biomedical Engineering	<a href="#">GBIO2M</a>	4		
Master [60] in Biology	<a href="#">BIOL2M1</a>	4		
Master [120] in Chemistry and Bioindustries	<a href="#">BIRC2M</a>	4		