



3.00 credits

22.5 h + 7.5 h

Q1

Teacher(s)	Morsomme Pierre ;Soumillion Patrice ;
Language :	English > French-friendly
Place of the course	Louvain-la-Neuve
Main themes	<ol style="list-style-type: none"> <li>1. Gene manipulation: recovery, cloning, modification, transfer and characterisation.</li> <li>2. Gene expression: vectors, expression in bacteria, yeasts, plants, insect and mammalian cells, production of monoclonal antibodies.</li> <li>3. Protein improvement: genetic engineering, directed evolution and chemical stabilisation.</li> </ol> <p>All the underlying techniques will be briefly explained.</p>
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <p>The student will get to know the field of protein biotechnology for which the interactions with chemistry are continuously growing, especially in bio-pharmacy. He will learn the notions of molecular biology and genetic engineering that are useful with regard to the production and improvement of proteins.</p> <p>Another objective is also to acquire the vocabulary associated with these notions so that the student will later be able to interact with the experts of that field.</p>
Evaluation methods	Written exam
Teaching methods	Ex cathedra lectures
Content	<ol style="list-style-type: none"> <li>1. Gene manipulation: recovery, cloning, modification, transfer and characterisation.</li> <li>2. Gene expression: vectors, expression in bacteria, yeasts, plants, insect and mammalian cells, production of monoclonal antibodies.</li> <li>3. Protein improvement: genetic engineering, directed evolution and chemical stabilisation. All the underlying techniques will be briefly explained.</li> </ol>
Inline resources	All documents are proposed via Moodle
Faculty or entity in charge	CHIM

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Chemical and Materials Engineering	<a href="#">KIMA2M</a>	3		
Master [120] in Chemistry	<a href="#">CHIM2M</a>	3		
Master [60] in Chemistry	<a href="#">CHIM2M1</a>	3		