



In view of the health context linked to the spread of the coronavirus, the methods of organisation and evaluation of the learning units could be adapted in different situations; these possible new methods have been - or will be - communicated by the teachers to the students.

3 credits	22.5 h + 7.5 h	Q1
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Teacher(s)	Morsomme Pierre ;Soumillion Patrice ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	1. Gene manipulation: recovery, cloning, modification, transfer and characterisation. 2. Gene expression: vectors, expression in bacteria, yeasts, plants, insect and mammalian cells, production of monoclonal antibodies. 3. Protein improvement: genetic engineering, directed evolution and chemical stabilisation. All the underlying techniques will be briefly explained.
Aims	<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. 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> <p>-----</p> <p><i>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".</i></p>
Evaluation methods	<b>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</b> Written exam
Teaching methods	<b>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</b> Ex cathedra lectures
Content	1. Gene manipulation: recovery, cloning, modification, transfer and characterisation. 2. Gene expression: vectors, expression in bacteria, yeasts, plants, insect and mammalian cells, production of monoclonal antibodies. 3. Protein improvement: genetic engineering, directed evolution and chemical stabilisation. All the underlying techniques will be briefly explained.
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	Aims
Master [120] in Chemistry	<a href="#">CHIM2M</a>	3		
Master [60] in Chemistry	<a href="#">CHIM2M1</a>	3		
Master [120] in Chemical and Materials Engineering	<a href="#">KIMA2M</a>	3		