UCLouvain

lchm2170

2022

Introduction to protein biotechnology

3.00 credits	22.5 h + 7.5 h	Q1

Teacher(s)	Morsomme Pierre ;Morsomme Pierre (compensates Soumillion Patrice) ;Soumillion Patrice ;
Language :	English > French-friendly
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.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 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.
Evaluation methods	Written exam
Teaching methods	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

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Chemical and Materials Engineering	KIMA2M	3		
Master [120] in Chemistry	CHIM2M	3		
Master [60] in Chemistry	CHIM2M1	3		