UCL Université catholique de Louvain

WSBIM2115

2015-2016

Relations structure/fonction des protéines

4.0 credits	30.0 h	1q

Teacher(s) :	Rider Mark (coordinator) ; Collet Jean-François ; Bertrand Luc ; De Plaen Etienne ;
Language :	Français
Place of the course	Bruxelles Woluwe
Prerequisites :	Good background in chemistry, physics and biochemistry. Basic computer skills (including use of search engines and data base searching).
Main themes :	Methods of expression, purification an in vitro renaturation of proteins (5h) Protein sequencing (2h) Bioinformatic analysis of proteins (homology searches, alignments, phylogenetic studies, motif and domain searching, structure modelling) (10h) Structure determination by NMR, crystal structures by X-ray diffraction in relation to function (3h) Enzymology (thermodynamics, pre- and steady state kinetics, calculation of kinetic parameters, ligand binding and allosteric enzymes, site-directed mutagenesis, theory of metabolic control) (10 h)
Aims :	To provide Masters students in Biomedical Sciences with the necessary competence to study: - techniques of overexpression/purification and structural analysis of proteins - structure-function relationships in proteins - physiological roles of enzymes *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 :	Written exam
Teaching methods :	Formal lectures, background reading
Content :	Enzymology, purification, sequencing, structure determination and bioinformatic analysis of proteins.
Bibliography :	Support: PDF files of Power Point présentations will be made available to the students on iCampus.
Other infos :	Teaching of the course material will be in French but Power Point files will be mostly in English
Faculty or entity in charge:	SBIM

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Master [120] in Statistics: Biostatistics	BSTA2M	4	-	
Master [120] in Biomedicine	SBIM2M	4	-	
Master [60] in Biomedicine	SBIM2M1	3	-	
Master [240] in Medecine	MED2M	3	-	
Master [180] in Medecine	MD2M	4	-	