

6.0 credits	50.0 h	1q
-------------	--------	----

Teacher(s) :	Rider Mark (coordinator) ; Van Schaftingen Emile ; Collet Jean-François ;
Language :	Français
Place of the course	Bruxelles Woluwe
Prerequisites :	Good knowledge of organic chemistry and biology together with structural biochemistry
Main themes :	To know and understand the kinds of enzymes involved in metabolic pathways at various levels and identify steps likely to be regulated. The students should also be able to explain how energy is harvested during different stages of catabolism, and in what form energy is exchanged in living cells.
Aims :	The main objective of this course is the understanding of metabolic processes associated with living cells. These lectures on the general biochemistry of metabolism form the basis for the understanding of physiology and pathology at the molecular level. The course will be given by Mark Rider, Jean-François Collet and Emile Van Schaftingen, from the de Duve Institute, who will give lectures close to their own research interests. <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>
Evaluation methods :	Evaluation: Multiple choice exam
Teaching methods :	Formal lectures, PDF files of Power Point présentations available on iCampus
Content :	<ol style="list-style-type: none"> 1. Haemoglobin : structure-function relationships 2. The main classes of enzymes and their cofactors (kinetics of enzymes "Michaelis-Menten" type and allosteric enzymes) 3. The major metabolic pathways and their control 4. Glycolysis and gluconeogenesis 5. Glycogen metabolism 6. The tricarboxylate cycle, électron transport and oxidative phosphorylation 7. b-oxidation of fatty acids, production and oxidation of ketone bodies 8. Lipid biosynthesis (triglycerides, phospholipids and the first steps of cholestérol synthesis) 9. Amino acid metabolism - transamination, deamination and urea cycle
Bibliography :	Course reference book (Voet et Voet 2nd French edition - translation of the 3rd American edition by G. Rousseau et L. Domenjoud)
Other infos :	The course language is French but some of the slides are in English
Cycle and year of study :	> Preparatory year for Master in Biomedicine > Bachelor in Biomedicine > Bachelor in Medecine
Faculty or entity in charge:	MED