

6.00 credits

50.0 h

Q1

Teacher(s)	Bommer Guido ;Collet Jean-François (coordinator) ;
Language :	French
Place of the course	Bruxelles Woluwe
Prerequisites	<i>The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.</i>
Learning outcomes	
Evaluation methods	<p>Students will be evaluated on their ability to integrate biochemical concepts into a coherent synthesis. They must be able to describe, use and explain in precise biochemical terms the themes addressed in the course and how disease can be the result of molecular and biochemical dysfunction.</p> <p>The written examination will consist in part of a multiple-choice questions and in part open-ended questions. For multiple choice questions with more than one correct option, the mark will only be attributed if all the correct responses have been selected. The number of correct options is stated clearly on the questionnaires. No negative marks will be allocated for blank or incorrect answers. The final mark is the arithmetic sum of the marks for the multiple-choice and open questions (in total 20 points). A final mark between 9/20 et 10/20 is not automatically rounded up to 10/20.</p> <p>There are no negative points or weighting according to the questions and chapters of the course content. However, when a student has a final mark between 9/20 and 10/20 after correction, the lecturers review together the exam copy to decide whether the mark should be rounded down or up according to the overall evaluation of the copy. Evaluation is based on the entire course content.</p>
Teaching methods	<p>Formal lectures.</p> <p>The teaching will be conducted mostly face-to-face. Occasionally remotely.</p>
Content	<p>The main objective of this course is a comprehensive understanding at the molecular level of chemical processes in living organisms. Therefore, this course on Metabolic Biochemistry constitutes the stepping stone for the course on Human Biochemistry.</p> <p>Content:</p> <ul style="list-style-type: none"> • Principles of thermodynamics • Structure, function and allostery • Introduction to enzymes: enzymatic kinetics and catalytic mechanisms • Principles of metabolic control • The glycolysis pathway • Glycogen metabolism • The Krebs cycle • Electron transport and oxidative phosphorylation • Gluconeogenesis and the pentose phosphate cycle • Metabolism of fatty acids, complex lipids and cholesterol • Metabolism of purine and pyrimidine bases • Amino acid metabolism • Analysis of metabolism and metabolic control
Inline resources	There is no formal syllabus ! PDF versions of slides presented in the course, which cover the subject in a comprehensive way, will be made available on Moodle.
Bibliography	<p>Voet et Voet "Biochimie" 2e édition 2007, traduction de la 3e édition américaine par Guy Rousseau et Lionel Domenjoud</p> <p>Textbook of Biochemistry with Clinical Correlations, 7ème édition, Thomas M. Devlin</p> <p>Lehninger Principles of Biochemistry by David L. Nelson Michael Cox (7th or 8th edition)</p>
Faculty or entity in charge	MED