

2.00 credits

20.0 h

Q1

Teacher(s)	Soumillion Patrice ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	It is recommended to have acquired the knowledge and skills developed in the teaching units: <a href="#">LCHM1111</a> Chimie générale <a href="#">LCHM1141</a> Chimie organique
Main themes	<b>Basic biomolecules</b> 1. Amino acids 2. Carbohydrates 3. Lipids and biological membranes 4. Nucleic acids 5. Proteins and enzymes <b>Concepts of molecular biochemistry</b> 1. DNA replication 2. Transcription of DNA into RNA 3. Protein biosynthesis
Learning outcomes	
Evaluation methods	Written exam in session (80% of the final grade), quiz and practical work reports (20% of the final grade).
Teaching methods	Lectures and practical work in the classroom
Content	<p>This first biochemistry course will aim at presenting the structure and chemical properties of the main molecular protagonists of the living world.</p> <p>The different chapters will be devoted to the detailed description of the major classes of biomolecules (amino acids, nucleotides, lipids, carbohydrates, proteins, enzymes).</p> <p>The way in which small molecules are assembled into larger structures (polymers) will also be discussed.</p> <p>The chemical origin of the main types of covalent and non-covalent interactions between biomolecules will allow a good understanding of the modes of biosynthesis and molecular recognition which are at the heart of the organization and functioning of living organisms.</p> <p>The behavior of enzymes, the main workers of life, will also be introduced, by describing the catalytic properties and the modes of regulation of these properties.</p> <p>The course will also provide a first descriptive introduction to the three major processes that are at the heart of the functioning of any living cell, namely replication, transcription and translation.</p> <p>This introduction will then serve as a basis for presenting the basics of modern molecular biology and recombinant DNA technologies that allow us to manipulate DNA in a surgical manner today.</p> <p>Five half-day practical sessions are also organized to familiarize the student with the experimental manipulation of the main classes of biomolecules (sugars, lipids, proteins, enzymes).</p>
Bibliography	<ul style="list-style-type: none"> <li>• Principles of Biochemistry de Lehninger</li> <li>• Biochemistry de Voet et Voet</li> </ul> (éditions récentes)
Faculty or entity in charge	CHIM

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Veterinary Medicine	VETE1BA	2		