



MD

MD1004

Chimie organique

[60h+30h exercices] 9 credits

Teacher(s): Paul Depovere, Jacques Fastrez, Jacques Poupaert, Etienne Sonveaux, Jean-Philippe Soumillion (coord.)

Language: french

Level: 1st cycle course

Aims

Acquiring a comprehensive knowledge of a human body and of his functioning requires a deep knowledge of the chemistry of life: biochemistry. Biochemistry uses the language, symbols, molecular structures and reaction mechanisms of organic chemistry. The aim of this course is to allow the student to master a basic core of organic chemistry. Practical courses and exercises are organized in order to give him autonomy in solving problems and in basic manipulations in the lab.

Main themes

In the first part of the course, concepts developed in general chemistry are applied to organic chemistry. The diversity of organic molecules based on carbon atoms is presented. Types of orbital hybridization, polarisation of bonds, isomerism, resonance and conformations allow the students to understand the nature of organic molecules, their 3D properties and their classifications. The second part of the course is devoted to various functional molecules, and to the reaction mechanisms related to the molecular structures. Their properties are studied with a special attention given, mainly in the third part of the course, to molecules of interest for biochemistry (sugars, lipids, amino acids and proteins).

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Precursory course : General chemistry

Other prerequisites are to master the french language and to have elementary mathematical (algebraic and geometric) knowledge. A good 3D perception is an advantage.

Working tools are given to the students: lecture notes, exercices in various presentations (including a CD.-Rom), laboratory book, etc...

A team of teachers ensures the lectures and the writing of notes, exercices and other supports which are available to the students. Obligatory services in room (15H assisted work) and in laboratory (15H lab work) are organized. For the assisted work, the students are asked to realize, in small groups, an active preparation. They are asked to present orally their solutions. Help is provided during monitorate session ensured by assistants. All these activities are taken into account in the final evaluation of each student. The final examination is mainly concerned with application exercices and with the solving of new problems. The aim is here to be able to solve a problem on an unknown molecule starting from the properties of known substrates.

Other credits in programs

DENT11BA	Première année de bachelier en sciences dentaires	(9 credits)	Mandatory
FARM11BA	Première année de bachelier en sciences pharmaceutiques	(9 credits)	Mandatory
MED11BA	Première année de bachelier en médecine	(9 credits)	Mandatory
SBIM11BA	Première année de bachelier en sciences biomédicales	(9 credits)	Mandatory