

## Faculty of Medicine



### FARM1004 The molecular aspect of drugs

[+30h exercises] 2 credits

**Teacher(s):** Paul Depovere, Jacques Poupaert, Etienne Sonveaux (coord.)  
**Language:** French  
**Level:** First cycle

#### Aims

Application of the logic of general and organic chemistry to commercial drugs and pharmaceutical preparations.

#### Main themes

The main themes of this course are :

- (i) Molecular formulas, molecular mass, doses, dilutions.
- (ii) Structural formulas of drugs : organic functions, isomerism, stereoisomerism, acid-base properties, water solubility, partition coefficient.
- (iii) Biopharmaceuticals : peptides and carbohydrates.
- (iv) Basic chemical reactivity of drugs and prodrugs.

#### Content and teaching methods

The activity is a tutoring aimed to familiarize the students with the molecular structures and the structure-properties relationships of the medicinal specialities of the belgian market. The developed themes are : the structure, chemical functions, isomery and stereoisomery of the specialities in question, their acid-base properties in relation with their solubilities and hydrophobicity (link between molecular structure and log P), a first contact with active peptides, peptidomimetics and glycoconjugates, worked examples of the reaction of key functions with water as a function of pH.

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

Prerequisites :

Sufficient knowledge of French.

- (i) when starting : having followed the MD1003 course "Chimie générale et minerale".
- (ii) during the 2nd semester : following in parallel the MD1004 course "Chimie organique".

Evaluation : written examination measuring problem solving capabilities.

#### Other credits in programs

<b>FARM11BA</b>	Première année de bachelier en sciences pharmaceutiques	(2 credits)	Mandatory
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