

## Faculty of Medicine



### FARM1233 Botanical introduction to pharmacognosy

[45h+30h exercises] 6 credits

**Teacher(s):** Jean-Pierre Auquière, Joëlle Leclercq  
**Language:** French  
**Level:** First cycle

#### Aims

At the end of this class the student will be able to recognize and identify the most important plants used in Pharmacy (mushrooms, medicinal plants, toxic plants)

- to prevent and identify the poisonings and their causes
- to identify the medical drugs that he will sell or appraise in his professional life
- to be able to understand the class of pharmacognosy including biosyntheses and chemiotaxonomy

He will be introduced to plant biotechnology and classification of the main chemical classes of the plant constituents

#### Main themes

- Introduction to mycology
- Specificity, structure and function of the plant cell + photosynthesis
- Plant histology and anatomie
- Life cycles of plants and reproduction in flowerign plants (flower, seed, fruit)
- Introduction to main chemical classes of plant drugs
- Systematic description of the main families of medical and/or toxic plants
- Engeneering for medical plants and outputs improprement, introduction to plant biotechnology

#### Content and teaching methods

The class begins with an introduction to the Kingdom Fungi and the identification of mushrooms

Then, the specificities of the plant cell are explained (cell wall, vacuoles, plastids).

Plant histology and anatomy are described, dwelling on the usefull characteristics for plant drugs identification.

Then the specificities of plant life style (nutrition, photosynthesis), life cycle (reproduction) are seen.

The second part describes the main chemical classes of natural products (general structure, main uses): primary and secondary métabolites (polyphenols, terpenoïds, alcaloïdes), the improving methods of medical plants and gives some information on plant biotechnology (GMO, cell and tissue in vitro culture , phytohormones, plant regeneration from calls)

The last part is devoted to Floristic and the systematic description of the main botanical families of medicinal or toxic plants (morphologie, main drugs and uses)

The practical knowledge is important: tutorials are organised to analyse cross-sections of medicinal plants; to learn the use of a flora and to make an herbal; seminars are organised too to learn the identification of mushrooms; a botanical garden (400 species of medicinal plants) is at teir disposal and guided tours are organised

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

Theoretical knowledge is evaluated by a written examination (~60%)

Practical knowledge is evaluated through the correction of the herbal and two exercices of plant identification: with a flora and on slices. (~ 40%)

To pass the examination the student will be able to integrate the different parts of the class anf have a global vue of the Plant Kingdom.

**Other credits in programs**

<b>FARM12BA</b>	Deuxième année de bachelier en sciences pharmaceutiques	(6 credits)	Mandatory
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