
COURSE: PHARMACOGNOSY

ACADEMIC YEAR: 2019-2020

TYPE OF EDUCATIONAL ACTIVITY: : Characterizing

TEACHER: Dott. Luigi Milella

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website:

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mobile (optional):

Language: **ITALIAN**

**ECTS: 6 (5 lessons and 1
tutorials/practice)**n. of hours: **52 (40 lessons
and 12 tutorials/practice)**Campus: **Potenza**Dept./School: **Department of****Sciences**Program: **Pharmacy (LM-13)**Semester: **I**

(from 1 october 2019 to

20 december 2019 -20

January 2020)

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

This course offers the most advanced introductions in herbal medicines. You will learn about herbs and their use for medical effect.

Knowledge and understanding:

Classification of medicinal plants and their specialized or secondary metabolites, phytochemistry and structural building blocks of secondary metabolites present in the plants: carbohydrates, lipids, terpenes, polyphenols, alkaloids. Moreover, pharmacology, toxicity, formulations and preparations of herbal medicines.

How herbs influence our physiology and can be helpful against several disorders.

Applying knowledge and understanding:

Relations between phyto-therapy and the elderly, phytotherapy and understanding herbal action, and understanding the *Materia Medica*.

PRE-REQUIREMENTS

Plant and Cell Biology .

SYLLABUS

Definition and objectives of Pharmacognosy. Information about the use of Medicinal plants. Plant as a source of drugs of pharmaceutical interest. An outline of the development of systematic classification of plants and Linnaean nomenclature.

Extraction procedures for natural compounds (supercritical fluids,ultrasounds,soxhlet,steam current distillation),their differences and their applications.

-Biogenesis and biological activity of natural products coming from mevalonate: terpenoids and steroids;

- The biological activities of several compounds belonging to polyketides, terpenoids and steroids;

moreover their traditional use and application in pharmaceutical and/or nutraceutical field.

- The main pathways of aromatic amino acids, alkaloids, phenylpropanoids

TEACHING METHODS

The course lasts 52 hours among theoretical lessons, classroom tutorials, laboratory tutorials, project works and technical visits. In particular, there will be 40 classroom hours and 12 hours of guided laboratory tutorials. For the lab the students are subdivided into groups (at most 20 students in each group) and each tutorial lasts 2 hours; at the end of the guided laboratory tutorials, if needed, the students will have access to the lab for further individual exercises.

EVALUATION METHODS

The aim of the final exam is to verify the level of achievement of the educational goals stated above. The exam is subdivided into 3 parts that will take place at the end of the course.

- A written examination (multiple choice and/or open questions) covering all the contents of the course (or part of it in case of *in itinere* partial exam). The aim of this part of the exam is to evaluate the study of the subject and the comprehension of the basic contents. It is selective in the sense that only students who show sufficient knowledge of the contents will be admitted to further parts of the exam. In order to pass the written exam it is necessary to obtain at least 18 points over 30. The duration is 45 min and it will not be allowed to use text books, PC, smartphones and/or calculators.
- A practical test in the lab (also in case of *in itinere* partial exam).
- An oral examination in which the student's capacity to connect and compare the different aspects of the course will be evaluated. In order to pass the oral examination it is necessary to obtain at least 18 points over 30

The final grade is the mean of the 3 grades. If one of the 3 parts of the exam is not successfully met and/or the total grade is less than 18 points over 30, it will be necessary to repeat all parts of the exam.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Farmacognosia. Farmaci di origine naturale of Gunnar Samuelsson ed. EMSI
Pharmacognosy, Phytochemistry, Medicinal plants. J. Bruneton. Ed. Lavoisier

INTERACTION WITH STUDENTS

At the beginning of the course, after describing the goals, program and examination procedure, the teacher will share the teaching material with the students (share folder via email). Simultaneously, the students who intend to attend the course will be requested to provide their name, surname, student ID number and contact details.

Office hours: Monday 9:30-11:30 at the teacher's office (4th floor of the Science Department). Besides the weekly office hours, the teacher is available at any time for email contact and for fixing appointments at other times.

EXAMINATION SESSIONS

- 5/03/2020
- 14/05/2020
- 4/06/2020
- 9/07/2020
- 10/09/2020
- 8/10/2020
- 3/12/2020

SEMINARS BY EXTERNAL EXPERTS	YES X	NO
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FURTHER INFORMATION
