COURSE DATA

Data Subject	
Code	34096
Name	Phytotherapy
Cycle	Grade
ECTS Credits	4.5
Academic year	2020 - 2021

Study (s)

Degree	Center	Acad. year	Period
1201 - Degree in Pharmacy	Faculty of Pharmacy and Food Sciences	5	First term

Subject-matter

Degree	Subject-matter	Character
1201 - Degree in Pharmacy	29 - Phytotherapy	Optional

Coordination

Name	Department
RIOS CAÑAVATE, JOSE LUIS	135 - Pharmacology

SUMMARY

Phytotherapy comprises in total 4.5 credits and it is offered as an optative matter in the degree of Pharmacy. It is focused for giving to the student a global view of phytomedicines. It is a matter theoretical-practical focused for developing skills need for using this kind of drugs in among the professional of health. For that, the subjects are focused toward different aspects, which are summarized.

- Phytotherapy: concept and objectives
- Quality control, crude drugs and phytomedicines. Standardization. Routes of administration.
- Legal aspects of phytotherapy. Sources of information.
- Application of phytotherapy. Pharmacological properties, toxicity and adverse reactions. Interactions with other drugs or phytomedicines. Therapeutically use in different pathologies:

- Insomnia, stress, anxiety y depression.

- Venous insufficiency, atherosclerosis and hypertension
- Respiratory troubles
- Digestive pathologies (anorexia, diarrhoea, constipation) and hepatic. Metabolic disorders.
- Urogenital pathologies
- Menopause and benign prostatic hyperplasia.
- Treatment of pain and inflammation. Skin diseases.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

The students need previous studies of Botany, Pharmacognosy and Pharmacology, because they develop the knowledge necessary for understanding the concept developed during the course.

OUTCOMES

1201 - Degree in Pharmacy

- To know how interpret, value and communicate relevant data in the different aspects of pharmaceutical activity, making use of information and communication technologies.
- Reinforce the acquisition of the general competences of the Curriculum of Degree in Pharmacy.
- To intervene in the activities of health promotion, prevention of illness, in the individual, family and community; with a comprehensive and multi-professional vision of the health-illness process.
- To evaluate the therapeutic effects of herbal medicines. To identify and evaluate the health risks associated with their use.
- To develop skills related to the use and dispensing of herbal medicines and other related preparations in the pharmacy, issuing therapeutic advice and promoting their rational use.
- Evaluation of quality control of herbal medicines, medicinal plants and related preparations.
- Evaluation of the efficacy of herbal medicines

LEARNING OUTCOMES

The matter will allow to the student the following capacities

- To develop the analytical and critical capacities for phytotherapy such as a therapeutic method.
- To express in adequate pharmacological terms in both patients and professional of health.
- To design experimental protocols for studying the quality, security and efficacy of phytomedicines.
- To localize the relevant information on phytotherapy and phytomedicines, and develop a critical evaluation this information, for giving an objective information to patients and professional of health, using information and communication technologies

To develop capacity for working both individual and in group, as well as the capacity for solving problems in the ambit of health using phytomedicines as therapeutic agents.

DESCRIPTION OF CONTENTS

1. GENERAL PHYTOTHERAPY

There are different units. The first develops 9 theoretical chapters in which different thematic units will develop general aspects of a posterior application in other units, in theory and practical sections in laboratory. The chapters will be the following (Chapter 1 to 9).
Chapter 1. Phytotherapy. Concept (crude drug, active principles, extract). Sources of information.
Chapter 2. Active metabolites from plants
Chapter 3. Medicinal plants. Farming and harvesting. Conservation.
Chapter 4. Quality control.
Chapter 5. Crude drugs and phytomedicines.
Chapter 6. Routes of administration.
Chapter 7. Aromatherapy. Therapeutic use of essential oils.
Chapter 8. Other complementary and alternative therapies.
Chapter 9. Legislation.

2. DESCRIPTIVE PHYTOTHERAPY

The descriptive phytotherapy is classified in 17 chapters (10 to 26) in which are developed the principal monographs of medicinal plants and crude drugs, and their properties. The classification is structured in function of the different anatomo-physiological systems and their pathologies. Each chapter includes botanical, phytochemical and pharmacological aspects of medicinal plants, as well as their therapeutic indications, adverse effects and interactions, posology and relevant bibliography
Chapter 10. Insomnia and stress.
Chapter 11. Depression and asthenia.
Chapter 12. Adaptogens and immunostimulants.
Chapter 13. Cardiac and venous insufficiencies.
Chapter 14. Antioxidants.
Chapter 15. Hypertension and atherothrombosis.
Chapter 16. Cough suppressants.
Chapter 17. Expectorants.
Chapter 18. Dyspepsia, flatulence and digestive troubles.

Chapter 19. Diarrhoea and constipation.
Chapter 20. Liver and biliary vesicle.
Chapter 21. Metabolism and endocrine system.
Chapter 22. Urinary disorders.
Chapter 23. Benign prostatic hyperplasia and sexual dysfunction.
Chapter 24. Menopause and associated disorders.
Chapter 25. Pain and inflammation..
Chapter 26. Skin pathologies.

3. QUALITY CONTROL OF VEGETAL DRUGS

This unit includes practices in laboratory and seminars. In they the student will be realize the control of quality if different crude drugs and medicinal plants following the indications of Spanish/European Pharmacopoeia. The principal protocols are:
- Botanical identification: macroscopic and microscopic analysis of selected material
- Phytochemical identification of reference principles or markers
- Quantification of samples following the standard protocol of Pharmacopoeias
- Final inform about all the results obtained during the practical sessions with a critical analysis about the identity, purity and quantity of each sample.

4. INTERPRETATION OF PHYTOTHERAPIC FORMULAE

In this unit the student will employ different bibliographical and informative sources for evaluating different formulae and commercial preparations for applying to specific diseases or disorders. The student should justify the therapeutic use of the different samples includes in the formula, the possible adverse effects and the contraindications. Final inform about the results on the different formulae.

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	25,00	100
Laboratory practices	10,00	100
Seminars	4,00	100
Tutorials	2,00	100
Development of group work	10,00	0
Study and independent work	30,00	0
Readings supplementary material	10,00	0
Preparing lectures	14,00	0
Preparation of practical classes and problem	3,00	0
TOTAL	**108,00**	

TEACHING METHODOLOGY

a) Plenary lectures (theory) with presentation of concept and contents, with the respective help of audiovisual and complemented with the help of the “Aula Virtual”

b) Seminars with oral presentation of complementary subjects selected previously. Each group will be of 4 students.

c) Tutorage for groups of 16 students or individuals, for solving problems and specific cases previously selected by the student.

d) Experimental sessions with groups of 16 students, which will be focused toward the resolution of real problems after the review of adequate sources of information.

EVALUATION

The final evaluation will be the following parts

- Active participation in classes, tutorial sections and other activities (5%). The assistance to the collective tutorial sections wild by obligatory.
- Seminars with oral presentation and followed by a discussion (5%).
- Practical sections (15%). The evaluation will consist in a mixture of tests (subjective and objective). The test will consist in the developing of different subjects, short questions and test with 4 questions and only one right answer. The final mark will be of a 75%.

The entire student needs a final mark of 5 over 10 for pass each part (practice and theory) and need to pass each one separately. The practical sections will be accepted for the year of realization and the next year. For the following years, the practical sections will be reapeated again.

REFERENCES

Basic

- Ríos JL. Fitoterapia. 2ª ed., PUV: Valencia, 2015
- Castillo E, Solís I (eds.). Manual de Fitoterapia. 2ª ed., Elsevier-Masson: Barcelona, 2016
- Vanaclocha B, Cañigueral S. Fitoterapia. Vademécum de prescripción de plantas medicinales. 4ª ed, Masson: Barcelona, 2003
- Cañigueral S, Vila R, Wichtl M. Plantas Medicinales y Drogas Vegetales para infusión y Tisana. Un Manual de Base Científica para Farmacéuticos y Médicos. OEMF International: Milán, 1998
- www.fitoterapia.net

Additional

- European Scientific Cooperative on Phytotherapy (ESCOP) Monographs. The Scientific Foundation for herbal Medicinal Products. 2ª ed, 2003 y suplemento 2009, ESCOP: Exeter.
- Real Farmacopea Española, 5ª ed, Ministerio de Sanidad y Consumo: Madrid, 2011. https://extranet.boe.es/index.php?referer=/farmacopea/index.php.
- Heinrich M, Barnes J, Gibbons S, Williamson EM. Fundamentals of Pharmacognosy and Phytotherapy. Churchill Livinsgstone: Edimburgo, 2004.
- Blumenthal M (ed). The complete German Comision E Monographs. Therapeutic Guide to Herbal Medicines. American Botanical Council: Austin, 1998.

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

1. Contents

All the contents programmed in the teaching guide for the theory sessions, practices, seminars, and tutorials are maintained.

2. Workload and schedule

All the aspects included in the teaching guide regarding the volume of work and temporary planning of teaching [I1] are maintained.

3. Teaching methodology

All aspects cited in the guide are maintained. The teaching material necessary for the development of the activities will be uploaded to the virtual classroom.

4. Evaluation

The criteria included in the teaching guide are maintained.

5. Bibliography

One reference has been updated:

Vanaclocha B, Cañigueral S. Fitoterapia. Vademécum de prescripción. 5ª ed, Elsevier: Barcelona, 2019.

The other recommended references remain.