

29319 - Pharmacology

Syllabus Information

Academic Year: 2019/20

Subject: 29319 - Pharmacology

Faculty / School: 229 - Facultad de Ciencias de la Salud y del Deporte

Degree: 442 - Degree in Odontology

ECTS: 6.0

Year: 2

Semester: Second semester

Subject Type: Basic Education

Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The subject aims to be a correspondence between the theoretical sessions and the practice sessions, so that these practice sessions to reinforce and support the contents of the subject, to achieve meaningful learning of the student that you can use in the exercise of their future professional work in the field of odontology.

The theoretical sessions will take place through interactive lecture, explanatory or demonstrative content sessions, using the blackboard and audiovisual material with computer support.

The practice sessions will be made by:

- discussion of seminars taught by the teacher. Active participation of the student
- laboratory session
- problem?based learning. Resolution and discussion
- Pharmatutor: computer lab session

course portfolio: collected reports relating to the control of the previous practice activities (individual work)

- realization of a monographic review work, in small groups, on a suggested topic. Presentation and defense. During the realization of the same, corresponding teachers will have various interviews with the working groups for academic orientation and supervision.

Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learnig materials (<http://www.unizar.es/dvirtual.htm>)

4.2. Learning tasks

This is a 6 ECTS course organized as follows:

Lecture

Pratice Session:

- . seminar
- . problem?based learning.
- . Pharmatutor: computer lab session
- . laboratory session
- . group work and presentation

4.3. Syllabus

The course will address the following topics:

Theory Sessions

GENERAL PRINCIPLES OF PHARMACOLOGY

Topic 1. Concept of Pharmacology. Definition and contents. Division of Pharmacology.

Topic 2. Drug Absorption. Routes of drug administration.

Topic 3. Drug Distributi3n.

Topic 4. Elimination: Drug Metabolism. Drug Excretion.

Topic 5. Pharmacodynamics.

Topic 6. Drug Interactions. Interactions of interest in dentistry

Topic 7. Adverse drug reactions (ADR). Oral side effects of medications. Pharmacovigilance.

DRUGS ACTING ON AUTONOMIC NERVOUS SYSTEM AND PERIPHERAL NERVOUS SYSTEM

Topic 8. Cholinergic Transmission. Cholinergic agents (Parasympathomimetics)

Topic 9. Anticholinergic agents (Antimuscarinic agents). Neuromuscular blocking drugs

Topic 10. Adrenergic Transmission. Adrenergic Drugs (Sympathomimetics)

Topic 11. Adrenergic-receptor antagonists block the effects of sympathetic stimulation: Alpha blocker and Beta blockers

PHARMACOLOGY OF PAIN, INFLAMMATION, IMMUNITY AND ANESTHESIA

Topic 12. Histamine and Antihistamines

Topic 13. Nonsteroidal anti-inflammatory drugs

Topic 14. Steroids antiinflammatory drugs (Corticosteroids)

Topic 15. Opioid analgesics

Topic 16. Local anesthetics. Basis of general anesthesia in dentistry.

CENTRAL NEUROPHARMACOLOGY

Topic 17. Drugs used for the treatment of anxiety and sleep disorders

Topic18. Drugs used for the treatment of affective disorders

DRUGS AFFECTING BLOOD

Topic 19. Drugs affecting hemostasis. Key Points for Dentists

CARDIOVASCULAR PHARMACOLOGY

Chapter 20. Anti-ischemic drugs; drugs used in the management of heart failure: arterial hypertension. Dental repercussion.

PHARMACOLOGY OF HORMONES

Topic 21: Insulin, glucagon and oral antidiabetic agents. Key Points for Dentists

Topic 22. Thyroid hormones and antithyroid drugs. Parathyroid Hormone. Calcium. Vitamin D. Calcitonin.

CHEMOTHERAPEUTIC DRUGS

Topic 23. Principles of antimicrobial chemotherapy

Topic 24. Beta-lactam antibiotics. Beta-lactamase inhibitors

Topic 25. Aminoglycosides

Topic 26. Macrolides. Ketolides, Lincosamide, Tetracyclines. Chloramphenicol. Other Antibacterial agents

Topic 27. Antitubercular agents.

Topic 28. Antifungal agents

Topic 29. Antiviral agents

Practice Sessions

- Seminar:

- . Pharmaceutical forms and route of drug administration
- . Adverse drug reactions (ADR)

- Computer simulation: Autonomic Nervous System: Dose-response curves. Agonist and antagonist drug (competitive or non-competitive). Neuromuscular blocking drugs

- Problem-based learning (PBL1, PBL2 and PBL3)

- Laboratory

- Group work and presentation

4.4.Course planning and calendar

Calendar of sessions and presentations will take place during the 4th semester of the degree.

The theoretical sessions will take place through the lectures according to the program presented according to the schedule assigned to the beginning of the course.

The practice sessions includes: seminar (second and third week); Pharmatutor: computer lab session (fourth and fifth week), Problem-based learning (sixth to eleven week); ; Laboratory (twelve to fourteen week); Exposition and defence of monographic works made by students in small groups (fifteen to sixteen week).

Exams on dates designated by the Centre (June and September)

Students who choose the evaluation model of regular class attendance:

The theoretical session will take place through the teaching of masterclasses according to the program presented according to the schedule assigned to the beginning of the course

Continued evaluation of the following practical seasons:

- 1) Computer simulation: after realizing the exercise in small groups, the students will deliver an analysis of dose-response curves and autonomic nervous system
- 2) Problem-based learning (PBL): the student will make a report analyzing the case from the pharmacological point of view.
- 3) Laboratory sessions: The student will fill out a summary of product characteristics carried out in the laboratory
- 4) Group work and presentation. realization of a monographic review work, in small groups, on a suggested topic. Presentation and defense

Students who do not choose the evaluation model of regular class attendance:

Overall evaluation that will realize in the official date (web of the Center)

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the "Facultad de Ciencias de la Salud y del Deporte" website and the Degree website (<http://http://fccsyd.unizar.es/>, <http://moodle2.unizar.es>).

4.5.Bibliography and recommended resources