

**Información del Plan Docente**

<b>Academic Year</b>	2017/18
<b>Faculty / School</b>	229 - Facultad de Ciencias de la Salud y del Deporte
<b>Degree</b>	442 - Degree in Odontology
<b>ECTS</b>	6.0
<b>Year</b>	2
<b>Semester</b>	Second semester
<b>Subject Type</b>	Basic Education
<b>Module</b>	---

**1.General information****1.1.Introduction****1.2.Recommendations to take this course****1.3.Context and importance of this course in the degree****1.4.Activities and key dates****2.Learning goals****2.1.Learning goals****2.2.Importance of learning goals****3.Aims of the course and competences****3.1.Aims of the course****3.2.Competences****4.Assessment (1st and 2nd call)****4.1.Assessment tasks (description of tasks, marking system and assessment criteria)****5.Methodology, learning tasks, syllabus and resources****5.1.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.

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The practice sessions will be made by:

- discussion of seminars taught by the teacher. Active participation of the student
- laboratory session
- problem&#8208;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 supervisi3n.

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>)

### 5.2.Learning tasks

#### Pharmacology (6 ECTS)

Lecture

Pratice Session:

- . seminar
- . problem&#8208;based learning.
- . Pharmatutor: computer lab session
- . laboratory session
- . group work and presentation

### 5.3.Syllabus

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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 Distribución.

**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

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**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

**Topic 18.** 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 reperfusion.

### 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

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**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

### 5.4.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 (first and second week); Problem-based learning (fourth and fifth week); Pharmatutor: computer lab session (sixth week); Laboratory (seventh and eighth week); Exposition and defence of monographic works made by students in small groups (ninth and tenth week).

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

### 5.5.Bibliography and recommended resources

#### BASIC BIBLIOGRAPHY

## 29319 - Pharmacology

- FLÓREZ J. Farmacología Humana (5ªed). Barcelona: Elsevier-Masson, 2008
- LORENZO P, MORENO A, LIZASOAIN I, LEZA JC, MORO MA, PORTOLÉS A. Velázquez- Farmacología básica y clínica (18ªed). Madrid: Panamericana, 2009
- RANG HP, DALE MM, RITTER JM, FLOWER RJ. Rang y Dale-Farmacología (6ªed). Barcelona: Elsevier, 2008

### RECOMMENDED RESOURCES

- FLÓREZ J. El tratamiento farmacológico del dolor. Madrid. Ars Médica. 2007
- PEÑARROCHA M, SANCHIS JM, MARTÍNEZ JM. Anestesia local en Odontología. Barcelona. Ars Médica. 2007
- TRIPATHI KD, Farmacología en odontología, Fundamentos. (1ª ed). Madrid. Panamericana, 2008.