

Academic Year/course: 2022/23

26716 - Diagnostic and Therapeutic Procedures: Pharmacology and Dietetic I

Syllabus Information

Academic Year: 2022/23

Subject: 26716 - Diagnostic and Therapeutic Procedures: Pharmacology and Dietetic I

Faculty / School: 104 - Facultad de Medicina

Degree: 304 - Degree in Medicine

ECTS: 6.0

Year: 3

Semester: First semester

Subject Type: Compulsory

Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The learning process designed to this subject is based in:

The subject shows the basic knowledge in pharmacology so that the activities proposed are focused on the understanding and assimilation of the mainstays of the Pharmacology as well as in the user of the drugs which is essential for the future development of the medical professionals.

The general vision of the knowledge obtained in the theoretical class is completed with the practical activities, where the student will get used to the different methods and their application in medicine.

The students can use the tutorial hours to get a better following of the learning process. These hours can be directed to the conventional tutoring session or to specific session related to the practical work.

The basic material of the course, such as the subject program, the summaries of the theoretical themes, the complementary material to the practical sessions and the schedule, will be uploaded to the website. The web page is <http://add.unizar.es/add/campusvirtual/> (Anillo Digital Docente), <https://moodle2.unizar.es>

The subject is structured as follows:

Classroom-based activities are developed through 32 participatory classes and involve a big group of students. The practical classes and/ or seminars consist of 20 class hours divided into working sessions of two hours and a half each. In this case, the students will be distributed in small groups.

4.2. Learning tasks

The course includes learning tasks:

- Lectures on big groups (1,28 ECTs)
- Self-study explanation and orientation of the subject contents directed to acquire the competences and learning results. All available resources about audiovisual support will be used. The professor will explain the theoretical contents, which are available in advance on the virtual platform Moodle
- Practical Sessions in small groups (0,80 ECTS). Each group of students will receive practical classes for

two weeks.

- Student's autonomous work (3,64 ECTS). Time devoted to study the course contents and prepare the sessions and assignments

All students will be informed about the risk associated with some practical classes, such as the use of dangerous products and they also will be advised on the procedures to be followed in case of an accident. Every student must sign a commitment to comply with the work rules and safety standards in order to carry out the practical classes. More information in <http://uprl.unizar.es/estudiantes.html>

4.3. Syllabus

The course will address the following topics:

General Principles of Pharmacology

- **Pharmacology concepts:** Active pharmaceutical ingredient. Drug life cycle research
- **Pharmacokinetics:** Drug passage across the membrane. Drug absorption. Routes of administration. Drug distribution. Drugs binding to proteins. Blood-brain barrier and placental barrier Drug metabolism and excretion
- **Pharmacodynamics:** Mechanism of drug actions. Pharmacological actions. Drug receptor concept and types. Dose-response curves. Drug-receptor interaction. Pharmacological interactions
- **Side effects**
- **Pharmacogenetics and Pharmacogenomics:** Concept. Genetic polymorphisms. Metabolic index.

Pharmacology of Systems

- Pharmacology of Autonomic Nervous System
- Pharmacology of mediators of Inflammation and Pain
- Pharmacology and the Immune System
- Chemotherapeutic Agents
- Pharmacology of Blood Disorders
- Pharmacology of Central Nervous System
- Antibiotics. Antiviral and Antifungal agents

Practical Sessions teaching with small groups

Each group practical classroom teaching will take place for two weeks

Module 1

1. Workshop: Route of drug administration and pharmaceutical forms
2. Pharmacokinetics: practical exercises
3. Pharmacodynamics: Dose-response curves. Agonist and antagonist drugs

Module 2

1. Problem-based learning. Two sessions
2. Pharmacology in Emergency. Exercises of simulation. (Role-playing exercises)
3. Seminars

4.4. Course planning and calendar

Theoretical class in a big group: three hours each week

Practical sessions in small groups of students: 10 hours each week and two weeks each group

Every group of students will develop the same training activities in lectures as well as practical sessions.

For students enrolled in the subject, places, times and dates of lectures and practical sessions will be public via Bulletin Board advertisements of the grade on the platform Moodle at the University of Zaragoza, <https://moodle2.unizar.es> and in the Moodle page for the course. These routes will be also used to communicate enrolled students their distribution by groups of practical sessions, which will be organized by the coordination of the degree.

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 Medicina website and the Degree website <https://medicina.unizar.es/tercer-curso#horario5>

4.5. Bibliography and recommended resources

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=26716>