

27240 - Biological Activity of Chemical Compounds

Información del Plan Docente

Academic Year	2018/19
Subject	27240 - Biological Activity of Chemical Compounds
Faculty / School	100 - Facultad de Ciencias
Degree	452 - Degree in Chemistry
ECTS	5.0
Year	4
Semester	Second semester
Subject Type	Optional
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 methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as:

- lectures (4 ECTS).
- Laboratory sessions (1 ECTS)

4.2.Learning tasks

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The course will address the following learning tasks:

- Classroom lectures according to the program described in point 5.3
- Laboratory sessions that include some of the techniques previously explained in classroom lectures.
- An optional essay about a topic chosen among a list proposed by the teacher. The student will be guided through the process of bibliographic search and writing.

4.3.Syllabus

The course will address the following topics:

- **Transport and biotransformations.** Transport of xenobiotics across biological membranes: Types and biochemical mechanisms. Enzymes as drug targets. DNA as drug target. Other targets. Biotransformation of xenobiotics. Activation and inactivation. Phase I and Phase II transformations. Response and adaptation of xenobiotics.
- **Toxicity of chemical contaminants.** Molecular mechanisms of toxicity. Cell effects of xenobiotics. Cell damage. Mutagenesis. Ames test and SOS chromotest in the evaluation of mutagenic potential.
- **Mechanism of action of drugs.** General aspects of pharmacological drugs. Antimicrobials. Antitumoral drugs. Drugs acting on the nervous system. Other drugs.
- **Drug development.** Pharmacological targets. Preclinical phase. Clinical essays

4.4.Course planning and calendar

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 web (<https://ciencias.unizar.es/grado-en-quimica-0>).

4.5.Bibliography and recommended resources