

27240 - Biological Activity of Chemical Compounds

Información del Plan Docente

Academic Year	2017/18
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.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

Planned competences will be acquired through the following activities:

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

27240 - Biological Activity of Chemical Compounds

5.2.Learning tasks

Different activities are planned that will help students to achieve the objectives:

- 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.

5.3.Syllabus

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

5.4.Course planning and calendar

For further details concerning the timetable, classroom and further information regarding this course please refer to the "Facultad de Ciencias " website and Moodle2 platform.

5.5.Bibliography and recommended resources

BB

Curtis Klaassen and John B. Watkins III.
Casarett and Doull's Essentials of
Toxicology . 2nd McGraw-Hill Professional.

27240 - Biological Activity of Chemical Compounds

2010.

BB Farmacología / H.P. Rang ... [et al.] . - 7^a
ed. Ámsterdam ; Barcelona ; Madrid [etc.] :
Elsevier, D.L. 2012

BB Patrick, Graham L.. An introduction to
medicinal chemistry / Graham L. Patrick .
5th ed. Oxford : Oxford University Press,
cop. 2013

BC Josephy, P.D. Molecular Pharmacology .
Oxford University Press. 2006.