Biomolecular Chemistry

Code: 100878
ECTS Credits: 6

Contact
Name: Roser Pleixats Rovira
Email: Roser.Pleixats@uab.cat

Use of languages
Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Prerequisites
The courses Fundamentals of General Chemistry and Organic Chemistry of Biochemical Processes must have been passed

Objectives and Contextualisation
The overall objective of the course Biomolecular Chemistry is to provide the students with an overview of natural products (biosynthesis, structural and ecological features, applications as source of bioactive compounds). Basic understanding about the chemical structures and biosynthesis of natural products will be provided, as well as their functiona and utility as pharmaceuticals or agrochemical agents.

The objectives of the course can be summarized as follows:

1. To Understand and know the structures of natural products of secondary metabolism and their biosynthesis.
2. To Understand the importance of natural products for their biological and pharmacological activities
3. To Know the ecological, pharmacological and agrochemical importance of natural products
4. To be able to propose reasonable biosynthetic pathways for natural products

Content

Biosynthetic pathways


Fatty acids and polyketides


Terpenoids

**Derivatives of shikimic acid**


**Semiochemicals**


**Secondary metabolism of amino acids**


**Alkaloids I**

Alkaloids derived from ornithine, lysine and nicotinic acid. Alkaloids derived from the shikimate pathway (from phenylalanine and tyrosine). Physiological effects and pharmacological applications of alkaloids such as cocaine, nicotine, hyoscyamine, hyoscine, atropine, ephedrine, mescaline.

**Alkaloids II**