Use of languages

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

Other comments on languages

Students will be asked to volunteer to an English group of "Seminaris d'autoaprenentatge Tutoritzat"

Teachers

José Miguel Lizcano de Vega
Carles Gil Giró
Francisco Blanco Vaca
Jose Ramon Bayascas Ramirez

Prerequisites

Although there are no official prerequisites, it is highly recommended to have passed Structure and function of Biomolecules and Organic Chemistry.

It is convenient to review the following subjects of the baccalaureate program:
- Chemical reactions of oxidation-reduction and nucleophilic substitutions
- Cell metabolism: Glicolysis, Krebs cycle and ATP synthesis

Objectives and Contextualisation

In the context of Basic Biochemistry, the Metabolism of Biomolecules subject focuses on knowledge of sources, forms of storage and use of energy and nutrients for human body cells. The catabolic and anabolic pathways of carbohydrates, lipids, amino acids and nucleotides, and their hormonal regulation, are studied. Emphasis is placed on the mechanisms of metabolic regulation, differentiating states of good nutrition and fasting, and on the discussion of biochemical changes present in common metabolic pathologies.

The aim is for the student to achieve a global understanding of human metabolism that integrates their main mechanisms, functions and regulation. This understanding will be used as a basis to be able to deepen in specific subjects during the rest of the degree studies with the help of textbooks, in particular in subjects such...
as Molecular Biology of the Cell, Systems Physiology, Pharmacology, Clinical Biochemistry and Biological Bases of Pathology. Critical reading of the bibliography and tutored discussions should be used to describe molecular processes that cause pathologies using a correct biochemical terminology.

Content

Topic 1. Introduction to metabolism.

Topic 2. Common phase of oxidative metabolism.


Topic 5. Metabolism of nitrogen compounds.

Topic 6. Integration and control of metabolism.
Metabolic particularities of some tissues. Interrelationships between tissues during the feed-fast cycle and in various nutritional or hormonal states. Physical exercise. Obesity. Diabetes