

# Biotechnology

Biotechnology **means the modification and application of living organisms, biological processes or systems, to industrial processes** aimed at either improving production or offering better services. For example, using living beings or products obtained from them for human profit.

## **Program description**

Our Plan of Studies is designed in a certain way that students will get to know the process that a scientific discovery undergoes until it becomes a biotechnological application at an industry level. The first part has a general character. Students will learn in depth about the characteristics of biological systems in order to know what their potential applications are and they will as well learn how to modify and enhance such systems in a laboratory. During this part, students will get to know the exploitation processes of these organisms at industry level, the relevant technology for this purpose and the fundamentals of computer science required for carrying out modern research and development. The second part is more specific. It consists of a range of elective subjects that allows students to shape their CV's in order to suit fields like Agri-food Biotechnology, Environmental Biotechnology and Biomedical Biotechnology.

The Plan of Studies is complemented with the analysis of economic (creation of biotechnology business) and legal aspects (focusing on processes of obtaining and exploitation of patents), that play an important role on exploiting these resources. The Campus is equipped with suitable technologies for practice and theory teaching, which allow students to carry out high-level research on Biotechnology.

The new program on Biotechnology will qualify students to implement biotechnological applications in the systems of goods and services production. In order to acquire this

general competence, students will acquire knowledge of basic scientific concepts and molecular mechanisms of living beings; they will learn to use the tools that are used in Biotechnology, and they will know the processes of biotechnological production in detail as well as the social and economic implications of Biotechnology.

**Career opportunities:**

The educational and competence objectives on our Plan of Studies are designed so that graduate students will be capable of carrying out their professional activity in a responsible and efficient way in the following fields:

- **Research, development and innovation in biological processes** that can be exploited in scientific fields such as Microbiology, Genetics, Bioremediation, Molecular Diagnostics, Immunology, Pest Control, Plant and Animal Production and Protein Engineering. And also, in fields like engineering aimed at optimizing the exploitation processes of biological resources at industry level.
- **Exploitation of biological resources** in diagnosis centers and companies in the agri-food, environmental, biomedical and pharmaceutical sector, as well as in the chemical industry for the production of biological products, such as enzymes and antibodies, and other organic compounds.
- **Business activity.** Students will acquire the skills to explore and develop their own business plans, related to the aforementioned fields.