

Licentiate in Physics – 6 years

High School and University / College Teacher of Physics – 5 years

Helper in Physics Research – 4 years

Objective:

To train students to solve problems and create knowledge concerning characteristics of matter, movement and energy. Physics establish a connection with Nature through the experimental method and – through the precise and concise mathematical language- elaborate models with which they build theories that explain what has been observed and also predict new phenomena. Besides, Licentiate in Physics are qualified to solve new problems through experiments, theoretical modelling and computational simulation.

Contents:

Physics is concerned with the study, experimentation and research of phenomena that goes from fundamental matter components and interactions at a subatomic scale to systems of extragalactic magnitude. Physics is supported by the groundings provided by Classic Physics, which accounts for the movement of macroscopic objects that move at a low speed (compared to the speed of light) and of phenomena such as the heat, the sound, the fluids dynamics, electricity, magnetism and the light. The Relativity and the Quantum Mechanics – which modify the classic laws to include objects that move at a speed close to that of light, super massive bodies, the fundamental matter particles, its interactions, the time and space – constitute two tools in the XX Century that complete the conceptual structure of the present Physics.

To obtain the Licentiate Degree, students must pass 26 compulsory subjects, 3 optional subjects and make a Thesis.

The teaching degree requires students to pass 10 subjects from the Licentiate Degree course, 4 specific subjects from the teaching training course –within a variety of topics concerning advanced Physics-, and 7 pedagogical subjects.

The Research Helper Degree requires students to pass 12 subjects from the Licentiate Degree course and a certain number of specific subjects aimed at favouring their insertion in the industry.

Job opportunities

Physics can work in public areas, mainly carrying out research, technological developments and teaching, as well as in the private sphere, working on new technologies, industrial processes, and companies and services analyses.

The teaching activity can be practised in universities, official organisms, schools, companies, laboratories, etc. Physics are qualified to work in branches based on specific aspects such as Astronomy, Astrophysics, Physical chemistry, Optics and Lasers, Biophysics, Geophysics, and Matter sciences; and they can take part in projects of applied and technological areas concerning interdisciplinary themes such as: Metallurgy, Electronics and Microelectronics, Non-conventional Energies, Medical Physics, etc.