

Master in Biology. Immunology-Microbiology and Infectious Diseases Specialty

The objective of this program is to train students in the fields of Immunology, Microbiology and Infectious Diseases, and develop their capabilities for fundamental and applied research. The theoretical lectures are provided by internationally recognized experts. They are meant to increase the students' knowledge in the aforementioned fields and to develop their proposal capabilities while the practical internship (6 months) allows them to become familiar with various experimental approaches used in the specialty. This program takes benefit of the Grenoble research laboratories dedicated to the study of adaptation mechanisms of microorganisms (eubacteria, archaeobacteria, unicellular eukaryotes, parasites) to their environment, host-pathogen interactions, pathologies of the immune system, biotechnological applications of microorganisms, applications of microorganisms for the health and the environment, explorative technologies of the immune system.

The program includes the following list of courses:

Mandatory courses: Choose 2 or 3 courses in the following list

BIO531J (6 ECTS): Basic and medical microbiology

BIO531K (6 ECTS): New approaches in microbiology, immunology and infectious diseases

BIO531L (6 ECTS): Basic and applied Immunology

Elective courses: Choose 2 or 3 courses in the following list

BIO531T (6 ECTS): Molecular bases of genetic diseases

BIO531U (6 ECTS): Experimental and therapeutical cancer research

BIO531R (6 ECTS): High-throughput biology

BIO531S (6 ECTS): Bioinformatics and modeling in biology II

BIO531M (6 ECTS): Structure determination of biological macromolecules by NMR

BIO531N (6 ECTS): Structural biology of host-pathogens interactions as studied by crystallography

BIO531O (6 ECTS): Structural biology of nucleic acids and transcription in Eukaryotes

BIO531P(6 ECTS): Enzymology : kinetics and catalytic mechanisms