master of science (MSc) in medical biology

GENERAL OUTLINE

Objectives
The Master of Science in Medical Biology degree is intended for students who are interested in biological research in the medical field.

Teaching focuses on the acquisition of key areas of expertise necessary for the development of new pre-clinical and clinical medical applications. This training gives students an in-depth knowledge of basic cellular functions, systems that transmit signals inside and among cells, human biology, and the normal and pathological functioning of the most important systems of the human organism.

Considerable attention is also paid to learning and applying techniques used in medical biology, as well as to personal research work.

Career prospects
University studies develop a great many transverse skills: oral and written communication, critical, analytical and summarising facultys, abilities in research, management of bibliographical resources and familiarisation with scientific literature relating to the field, etc.

This panoply of skills, combined with specialist knowledge acquired in the course of studies, is excellent preparation for a wide range of economic sectors:
- Academic research
- Pharmaceutical industry
- Biomedical industry
- Biotechnology firms
- Medical laboratories
- Hospital environment
- Toxicological analysis laboratories

Alumni have different positions, such as entrepreneur biologist.

Example of opportunities and alumni’s profiles:
www.unil.ch/perspectives/biologie

Version: February 2021
Subject to changes.
Only the official texts should be considered binding.

www.unil.ch/masters
EDUCATIONAL CONTENT

Description
The first semester provides an introduction to human biology in the broad sense. Teaching covers the basic cellular functions and the transmission systems of signals inside and among cells, as well as the normal and pathological functioning of the most important systems of the human organism.

The second semester is dedicated to specialisation and you choose a study path from among the four options available: Immunology and Cancer, Neurosciences, and Pharmacology and Toxicology. You begin your Master research project in the chosen study path. You may obtain animal experimentation certification or follow a clinical research module.

The third semester is dedicated to the completion of personal research work.

Mobility
The Master research project can be conducted in a partner institution recognised by UNIL.

SYLLABUS

1st semester - 30 ECTS credits
Common study programme
Courses, seminars and practical work in:
• Cell Biology
• Intracellular Signalling
• Microbiology
• Cardiovascular Diseases
• Neurological Diseases
• Metabolic Diseases
• Immunology and Cancer
• Impact of a Patent on your Research
• Scientific Writing

Personal Research Work
Introduction

2nd semester - 30 ECTS credits
Choice of study path
Courses and practical work in clinical medicine and biostatistics
Options:
• Immunology and Cancer
• Neurosciences
• Pharmacology and Toxicology

Optional Modules
• Animal Experimentation Certificate
or
• Introduction to Clinical Research

Start of Personal Research Project

3rd semester - 30 ECTS credits
Personal Research Work
• Continuation and Conclusion of Research Work

PRACTICAL INFORMATION

Admission requirements
Candidates must be holders of a Bachelor of Science in Biology or in a field considered to be equivalent awarded by a Swiss university. Another degree or academic title may be judged equivalent and give access to the Master’s degree course, with or without further conditions.

Administrative information
Ms Almudena Vazquez
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Head of studies
Drs Marie-Christine Broillet
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Enrolment and final dates
Applications must be submitted to the Admissions Service before 30th April:
www.unil.ch/immat
Candidates requiring a visa to study in Switzerland: 28th February.

Start of courses
Mid-September. Academic calendar:
www.unil.ch/central/calendar

Part-time Master’s degree
Subject to certain conditions, Master’s studies can be followed part-time. In this case they correspond to semi-continuous studies (50%) for the entire duration of the course: all theoretical teaching in the first and second semester and then all practical work (introduction to research and Master’s dissertation).
For more details concerning the requisite conditions:
www.unil.ch/ formations/master-temps-partiel

General information on studies, guidance
www.unil.ch/soc

Career prospects
www.unil.ch/perspectives

Accommodation and financial assistance
www.unil.ch/sasme

International
www.unil.ch/international