

| le savoir vivant |

Master of Science (MSc) in Molecular Life Sciences
specialisation in

integrative biology



Unil

UNIL | Université de Lausanne

Faculté de biologie
et de médecine

www.unil.ch/ecoledebiologie

specialisation in integrative biology

The aim of Integrative Biology is to integrate information across the numerous levels of biological organisation ranging from molecules to ecosystems. Recent advances in genome sequencing and other large-scale approaches have revealed that – particularly at the level of molecules – life in all its diversity of forms is remarkably similar. The specialisation Integrative Biology is based on the proposition that the molecular life scientist of the future is best served by acquiring an integrative approach – both methodological and intellectual – to the study of life.

OBJECTIVES / ASSETS

Many biological questions can best be tackled with a multidisciplinary approach. The main objective of this specialisation is to familiarize you with this concept by encouraging you to select courses from a variety of disciplines.

The MLS Master programme is designed to expose you to an Integrative Biology spirit by combining courses and practical work from a variety of disciplines including experimental and computational approaches. The course “Sequence a Genome” that is taken by all MLS students illustrates this concept. This course covers all the steps from preparing DNA to the assembly and annotation of a genome. This is a “hands on” course where a combination of computational approaches and biological insight is an essential feature for success.

Several UNIL departments affiliated to the MLS Master have used such integrative approaches with great success enabling you to gain experience from leading scientists in this field.

CONTENT

The MLS specialisation Integrative Biology shares two common activities with the other MLS subject areas: a unique experimental class “Sequence a Genome” and a scientific writing class where you write a review article and a research proposal.

You are encouraged to select a large variety of optional courses covering numerous topics including:

| Cellular and Developmental Biology | Genetics and Genomics | Signal Transduction | Biotechnology | Computational Biology | Plant Biology | Microbiology |

To acquire practical expertise you complete a “First step” project during the first semester and a Master project during semesters 2 and 3.

This specialisation provides you with a broad perspective in Biology that is of high importance for academic and applied research, teaching, journalism and other professional activities where a solid background in biology is required.

GENERAL INFORMATION

The Master of Science (MSc) in Molecular Life Sciences (MLS) amounts to 90 ECTS credits and is taught entirely in English. MLS students may obtain the Master without specialisation, or with specialisation Integrative Biology, Microbiology or Bioinformatics.

ADMISSION REQUIREMENTS

Candidates to the Master MLS must hold a Bachelor of Science (BSc) 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 programme, with or without further conditions.

CONDITIONS FOR OBTAINING THE QUALIFICATIONS OF MASTER’S DEGREE WITH SPECIALISATION

www.unil.ch/eb-mls > Study programme > Regulations and directives

To obtain the Integrative Biology specialisation, you must choose and pass your Master’s project within the field of the specialisation.

If you want to obtain the Master’s degree with a specialisation, you must indicate your choice to the School of Biology when enrolling for the Master’s thesis.

Head of studies

Prof. Richard Benton

Responsible for the specialisation

Prof. Philippe Reymond

Further information

www.unil.ch/eb-mls > Specialisations > Integrative biology