

# Biology

## Master of Science

The MSc Biology programme provides you with a detailed understanding of how life on earth has evolved, how it functions and how it responds to environmental challenges.

Within this programme you acquire the tools and knowledge to perform research aimed at the molecular, cellular, and/or organismal level to unravel the principles of life, or to apply this fundamental knowledge in biotechnology or environmental sciences. The programme also involves general skills training, which is important for your future career, be it in academia, industry or government. The following four research specialisations are offered:

- Biodiversity and Sustainability (B&S)
- Evolutionary Biology (EB)
- From Cells to Organisms (FCTO)
- Molecular Genetics and Biotechnology (MG&B)

Alternatively, each research specialisation can be combined with a non-research specialisation in communication, education or business.

### Why study Biology at Leiden University?

- This programme is a collaboration between the Institute of Biology Leiden, Naturalis Biodiversity Center and the Institute of Environmental Sciences, which offers a unique combination of expertises, and gives the programme a broad and diverse scope.



**Universiteit  
Leiden**  
The Netherlands



- Within the programme, you have ample opportunities to assemble your own study path based on your interests and ambitions.
- You have access to the national biodiversity collections of Naturalis, and to state of the art facilities, such as a lab for high throughput genotyping, the Nanopore Sequencing Lab, the Metabolomics Facility, or the Cell Observatory.
- The embedding in the Faculty of Science and the close connections with the Leiden University Medical Center, the Netherlands Institute of Ecology (Wageningen) and with bioscience-based companies ensure a good selection of courses and internships.

### Facts and figures

Language	English
Duration	2 years
Degree	Master of Science
Start	September or February
Admission	Start September: 1 April non-EU/15 June EU Start February: 15 October non-EU/1 December EU
Tuition fee	€ 2,060 EU/17,800 non-EU

### More information

For more information, please visit our website:

[masters.universiteitleiden.nl/biology](https://masters.universiteitleiden.nl/biology)

Discover the world at Leiden University

# MSc Biology research specialisations: programme overview and courses

Theoretical Part	30-60 EC
Specialisation Orientation Course	2 EC
Advanced Statistics	4 EC
Genomic Architecture	6 EC
Compulsory Courses (see table below)	6-18 EC
Elective Courses (see table below)	0-48 EC
Research project (1 or 2)	60-90 EC
<b>Total</b>	<b>120 EC</b>

Course	B&S	EB	FCTO	MG&B	EC
Ecosystems Services	●	●	●	●	6
Human Impacts on Biodiversity	●	●	●	●	6
Methods in Biodiversity Analysis**	●	●	●	●	6
Plant Families of the Tropics	●	●	●	●	5
Development and Evolution	●	●	●	●	6
Integrative Taxonomy	●	●	●	●	6
Paleobiology**	●	●	●	●	3
Tropical Biodiversity and Field Methods	●	●	●	●	6
Animal Cognition	●	●	●	●	6
Advanced Cell Biology**	●	●	●	●	4
Innate Immune Systems**	●	●	●	●	6
Mechanisms of Disease	●	●	●	●	6
Introduction to Laboratory Animal Science	●	●	●	●	1
Biological Mechanisms of Ageing & Development*	●	●	●	●	4
From Genetic Disease to Functional Genomics*	●	●	●	●	6
Stem Cells*	●	●	●	●	6
Image Analysis with Applications in Microscopy*	●	●	●	●	6
Advances in Data Mining*	●	●	●	●	6
Mathematical Biology: Metabolic Networks Analysis*	●	●	●	●	6
Computational Molecular Biology*	●	●	●	●	6
Multiscale Mathematical Biology*	●	●	●	●	6
Advanced Molecular Genetics and Biotechnology**	●	●	●	●	3
Global Regulatory Networks in Bacteria	●	●	●	●	6
Model Organisms in Cancer Drug Discovery*	●	●	●	●	4
Metabolomics	●	●	●	●	6
Science Methodology*	●	●	●	●	6
Biogeochemistry of System Earth	●	●	●	●	3
Science and the Public*	●	●	●	●	6
Top Lectures Basic/Elite	●	●	●	●	1/3
Advanced Academic Skills Elite Course	●	●	●	●	6
Book Exam	●	●	●	●	6

## Legends

- Compulsory specialisation-specific course
- Elective not specialisation related course
- Compulsory: select at least two courses
- \* Faculty of Sciences or LUMC course selection
- Compulsory: select at least one course
- \*\*New Biology course starting in 2017
- Specialisation-related elective course