Master Biology

at Wageningen University

Year 1	Common course 6 ECTS	Specialisation courses 12 ECTS	Electives 30 ECTS	Academic Master Cluster 12 ECTS
Year 2	Thesis 36 ECTS		Internship 24 ECTS	

All master's students Biology follow one **common course**: *Frontiers in Biology*. In this course you will get an overview of the latest developments in Biology.

You will choose one of the four **specialisations**:
- Cell Biology and Molecular Interactions
- Development and Adaptation
- Health and Disease
- Ecology

Within your specialisation you can choose your own direction by selecting specialisation courses that fit your interests.

In the **electives**, you can choose courses from any relevant MSc programme from WUR or other universities (subject to approval). The combination of specialisation and elective courses gives you the opportunity to graduate with a profile that is tailor-made to your specific interests.

For **Academic Master Cluster** you can choose between ACT+MOS or RMC.

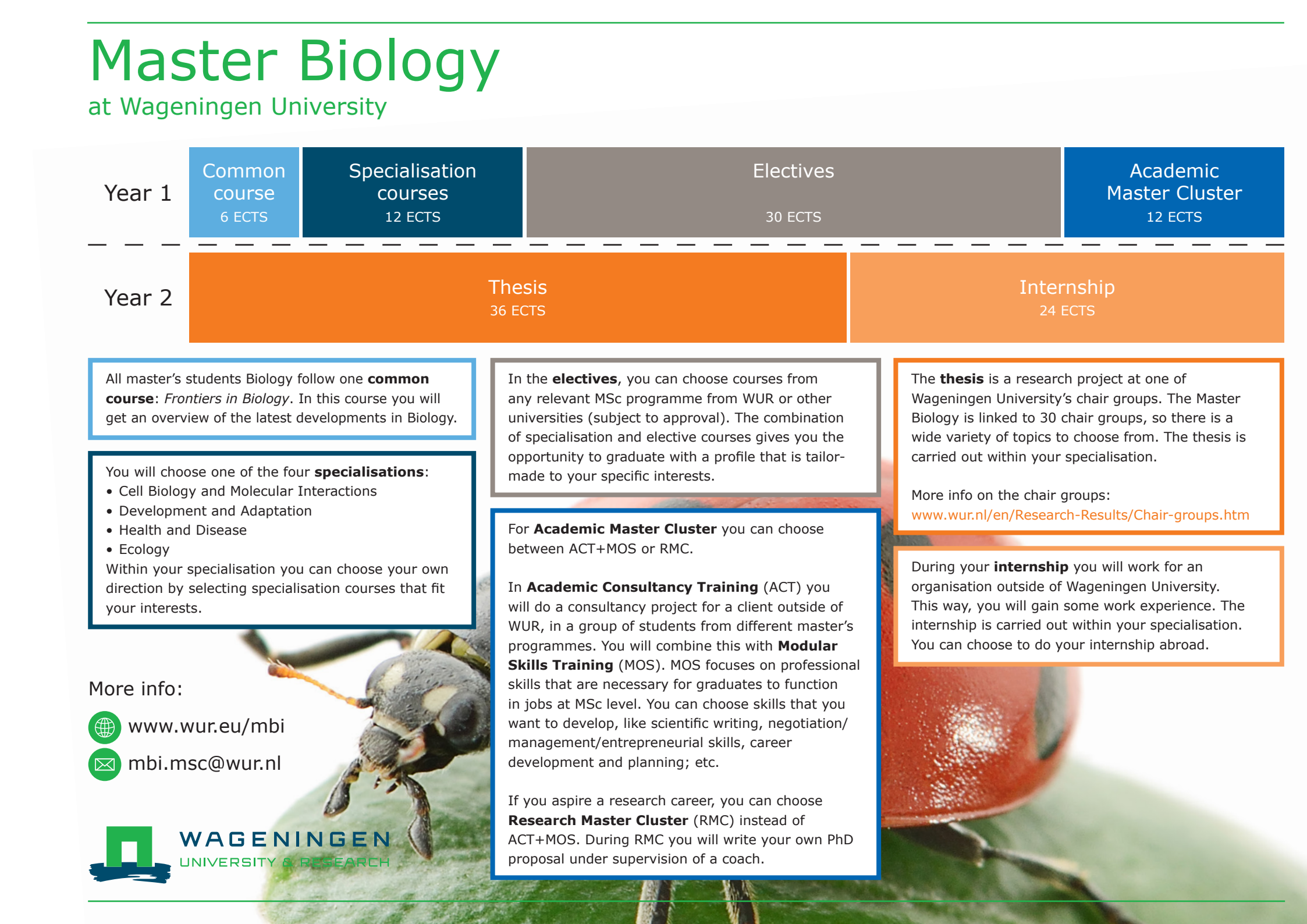
In **Academic Consultancy Training** (ACT) you will do a consultancy project for a client outside of WUR, in a group of students from different master's programmes. You will combine this with **Modular Skills Training** (MOS). MOS focuses on professional skills that are necessary for graduates to function in jobs at MSc level. You can choose skills that you want to develop, like scientific writing, negotiation/ management/entrepreneurial skills, career development and planning; etc.

If you aspire a research career, you can choose **Research Master Cluster** (RMC) instead of ACT+MOS. During RMC you will write your own PhD proposal under supervision of a coach.

The **thesis** is a research project at one of Wageningen University's chair groups. The Master Biology is linked to 30 chair groups, so there is a wide variety of topics to choose from. The thesis is carried out within your specialisation.

More info on the chair groups:
www.wur.nl/en/Research-Results/Chair-groups.htm

During your **internship** you will work for an organisation outside of Wageningen University. This way, you will gain some work experience. The internship is carried out within your specialisation. You can choose to do your internship abroad.



More info:

www.wur.eu/mbi

mbi.msc@wur.nl

WAGENINGEN
UNIVERSITY & RESEARCH

Specialisation Cell Biology and Molecular Interactions

In this specialisation you will study processes at a molecular and cellular level. You will work with state of the art research techniques in order to understand complex biological processes and phenomena such as evolution, aging, symbiosis, physiology and immunology.

Choose at least one literature & scientific analysis course:
- Control of Cell Processes & Differentiation
- Comparative Biology and Systematics
- Advanced Cellular Imaging Techniques

Choose at least one research skills course:
- Immunotechnology
- Genetic Analysis Trends and Concepts
- Molecular Aspects of Bio-interactions
- Genomics

Thesis and internship chair groups:
- Animal Breeding and Genomics
- Biochemistry
- Biosystematics
- Cell Biology
- Entomology
- Genetics
- Human and Animal Physiology
- Marine Animal Ecology
- Microbiology
- Molecular Biology
- Nematology
- Phytopathology
- Plant Physiology
- Systems and Synthetic Biology

Specialisation Development and Adaptation

In the specialisation Development and Adaptation you will study how individual organisms, particularly plants and animals, adapt to their biotic and abiotic environment, both during development and in adult life. To study this, you will use biomechanics, behavioural observations, genetic principles, biochemical analysis, molecular and physiological techniques.

Choose at least one literature & scientific analysis course:
- Comparative Biology and Systematics
- Biomimetics
- Regulation of Plant Development
- Plant-Microbe Interactions
- Marine Animal Ecology
- Plant Plasticity and Adaptation

Choose at least one research skills course:
- Genetic Analysis Trends and Concepts
- Vertebrate Structure and Function
- Molecular Aspects of Bio-interactions
- Functional Zoology
- Behavioural Ecology
- Developmental Biology of Animals

Thesis and internship chair groups:
- Aquaculture and Fisheries
- Behavioural Ecology
- Biochemistry
- Biosystematics
- Cell Biology
- Entomology
- Experimental Zoology
- Genetics
- Marine Animal Ecology
- Molecular Biology
- Nematology
- Phytopathology
- Plant Physiology
- Wildlife Ecology and Conservation

Specialisation Health and Disease

The specialisation Health and Disease focuses on the prevention of health problems and the functioning of healthy animals. Therefore, you will learn about molecular, immunological, virological, physiological and disease ecological approaches.

Choose at least one literature & scientific analysis course:
- Molecular Regulation in Health & Disease
- Human and Veterinary Immunology
- Human Microbiome
- Fundamental and Applied Virology
- Intestine Microbiota Interactions

Choose at least one research skills course:
- Host-Parasite Interactions
- Immunotechnology
- Brain, Hormones and Metabolism
- Disease Ecology

Thesis and internship chair groups:
- Aquaculture and Fisheries
- Cell Biology and Immunology
- Environmental Systems Analysis
- Human and Animal Physiology
- Host-Microbe Interactomics
- Nutritional Metabolism and Genomics
- Microbiology
- Nematology
- Wildlife Ecology and Conservation
- Systems and Synthetic Biology
- Toxicology
- Virology

Specialisation Ecology

In the specialisation Ecology you will learn about the conservation of biodiversity and ecosystem functioning in changing environments. Field research, molecular techniques, modelling and quantitative analysis of large datasets form an integral part of this specialisation.

Choose at least one literature & scientific analysis course:
- Marine Systems
- Microbial Ecology
- Complexity in Ecological Systems
- Comparative Biology and Systematics
- Ecological Modelling and Analysis in R
- Fisheries Ecology
- Forest Ecology and Forest Management
- Population and Quantitative Genetics
- Marine Animal Ecology

Choose at least one research skills course:
- Ecological Aspects of Bio-interactions
- Molecular Aspects of Bio-interactions
- Biological Interactions in Soils
- Environmental Toxicology
- Behavioural Ecology
- Disease Ecology
- Plant, Vegetation and Systems Ecology
- Animal Ecology

Thesis and internship chair groups:
- Animal Breeding and Genomics
- Aquatic Ecology and Water Quality
- Aquaculture and Fisheries
- Behavioural Ecology
- Biosystematics
- Crop and Weed Ecology
- Entomology
- Environmental Systems Analysis
- Forest Ecology and Forest Management
- Genetics
- Marine Animal Ecology
- Microbiology
- Nematology
- Plant Ecology and Nature Conservation
- Phytopathology
- Plant Physiology
- Plant Production Systems
- Wildlife Ecology and Conservation
- Soil Biology
- Toxicology