

# Master in «Biodiversity»

## Overview

The Master's Program in Biodiversity offers students the opportunity to acquire knowledge in the field of biodiversity research, with a strong emphasis on ecology and evolutionary biology, as well as related fields. Building on a solid foundation in fundamental natural sciences, students will acquire the expertise necessary to address environmental challenges that hold both scientific and societal significance on a global scale. Graduates of this program will be well-prepared to conduct independent scientific research, from project planning to execution, and to proficiently communicate their findings to expert audiences through scientific publications.

Graduates of the MSc in Biodiversity are able to:

1. recognize and discuss the scientific basis of global and local issues in the thematic area of biodiversity and environmental science,
2. Independently identify a current research topic in the field of ecology, evolutionary biology, behavioral biology or environmental science for a scientific project,
3. Fully implement a research project (planning, data collection, analysis, writing a scientific paper, presentation of this paper),
4. to develop methodological approaches to answer research questions,
5. to independently collect, evaluate and interpret data,
6. to critically question the validity and reliability of the data and methods of their own and other studies,
7. to successfully position themselves in the academic and non-academic environment with the acquired skills.

## Contacts

MSc Coordinator of the «Biodiversity» Master: Prof. Arpat Ozgul

Study Coordinator of the «Biodiversity» Master: Claudia Hegglin, [biodiversitaet@biol.uzh.ch](mailto:biodiversitaet@biol.uzh.ch)

## Organisation

At the beginning of the master's program, students agree with the coordinator of the master's program and the supervisor of their master's thesis on a Learning Agreement for the entire master's program. Subsequent changes to the Learning Agreement require the consent of the coordinator.

The Biodiversity Master consists of three parts:

### *Part I – Coursework (20 ECTS)*

This part comprises multiple courses. Students and the supervisors choose together courses that meet the training needs. Time allocated to courses is in addition to the thesis EEE 500 (12 months) and EEE 520 (2 months). Further details on each part are provided below.

### *Part II – EEE 520 (Integrated Knowledge in Biodiversity - 10 ECTS)*

This part, a mandatory 10-credit course, is taken before thesis work, involving 6-8 weeks of intensive study under supervisor guidance, focusing on thesis topics. Assessment is via an oral exam on topics and material agreed by student and their supervisor.

### *Part III – EEE 500 (The MSc Thesis - 60 ECTS)*

This part comprises 12 months of scientific research, in which a research question in the field of biodiversity is tackled under the guidance of the supervisor. The culmination of this research is a written thesis, which forms the basis of the evaluation.

## Enrollment steps

### Step 1: Admission requirements

The Biodiversity Master welcomes students from all universities, provided they have a suitable bachelor's degree. To check the eligibility of your bachelor's degree, please contact the Study Coordinator. If you are applying from outside UZH, make sure to complete this step before you proceed to the next steps.

### Step 2: Apply to UZH

If you come from outside, you need to apply to study at UZH. For details, please consult the [UZH admission page](#). Only if you are admitted to UZH without conditions or if you successfully passed your MSc preparatory phase at UZH with the modules listed as conditions, you can proceed to step 3. Students that are already studying at UZH can apply to the Master via semester enrollment and continue with step 3 in the last semester of their Bachelor program.

### Step 3: Contact a Supervisor

The MSc thesis is the most important part of the MSc degree. Therefore, finding an MSc Supervisor who offers a project that meets your interests is paramount. You can check the [Biodiversity Masters Projects](#) list for currently offered projects or directly contact the following research groups and organisations.

Research groups at UZH:

- [Department of Evolutionary Biology and Environmental Studies](#)
- [Department of Systematic and Evolutionary Botany](#)
- [Department of Plant and Microbial Biology / Limnology](#)

External research and conservation organisations:

- [info fauna karch - Swiss Amphibian and Reptile Conservation Programme](#)
- [Vogelwarte - Swiss Ornithological Institute](#)
- [EAWAG - Swiss Federal Institute of Aquatic Science and Technology](#)
- [WSL - Swiss Federal Institute for Forest, Snow and Landscape Research](#)
- [Agroscope](#)
- [Bat Conservation Switzerland](#)
- [KORA - Carnivore Ecology and Wildlife Management](#)

If you have any doubts if a particular person can be your MSc Supervisor, please ask them. If they have any doubts, please have them contact the MSc Coordinator. This is particularly important if you are considering an MSc thesis with an external supervisor / organisation. In this case, you may also need an internal supervisor who will take on the official supervisor responsibilities.

### Step 4: Complete the Learning Agreement

The Learning Agreement sets out the program of learning and research; it must be completed online. Detailed information on the Learning Agreement process can be found [here](#).

To complete the Learning Agreement, take the following steps:

1. Prepare a complete draft of the Learning Agreement in collaboration with the MSc Supervisor.
2. Enter the draft in the online tool: [www.studentadmin.uzh.ch](http://www.studentadmin.uzh.ch).
3. The Study or MSc Coordinator give feedback and you revise the Learning Agreement as required in collaboration with the MSc Supervisor.
4. Finalize the Learning Agreement in the online tool and submit it for confirmation (by the MSc Supervisor) and clearance (by the MSc Coordinator).

The MSc Supervisor, the MSc Coordinator, and the Study Coordinator will be notified automatically by email. If they do not confirm or clear the Learning Agreement within two weeks of submission, contact them directly. To make later changes to the Learning Agreement, specify the changes and repeat step 4.

## Part I – Courses individually listed in the Learning Agreement

The student chooses in collaboration with their MSc Supervisor and according to their training needs, 15 ECTS from elective courses and 5 ECTS credits from any courses offered by the University of Zurich or ETH. The chosen courses must be listed on the Learning Agreement.

One course on Scientific Writing must be taken either before or during the Masters (e.g. BIO 149 “Introduction to Scientific Writing”, BIO 556 “Scientific Writing for Organismal Biologists”, or BIO 338 “Introduction to Scientific Writing”).

UZH bachelor's can transfer some of the bachelor's course credit points to their MSc program. Such transferred credit points need to be indicated clearly in the Learning Agreement and approved by the MSc Supervisor and the MSc Coordinator. Journal clubs and research seminars, which are expected to be part of the MSc thesis experience, do not contribute to the required 20 credit points.

## Part II – Integrated Knowledge of Biodiversity

### Study material

This module comprises a total of 300 hours (corresponding to about 6–8 weeks) of self-study and has to be taken **before** thesis work. At the beginning of the module, the MSc Supervisor assigns study material (e.g., chapters from selected books, series of scientific articles) to the student. The MSc Supervisor suggests a scope and related reading material to the MSc Coordinator who will evaluate and approve the study material.

An example (~500-600 textbook pages):

- [\*Conservation of Wildlife Populations\*](#): The whole book; or
- [\*Animal Movement Across Scales\*](#): Chapters 2,3,7,8,12,14; or
- 5-10 selected manuscripts on the topic of the MSc thesis

By the end of this module, the student should be able to demonstrate comprehensive understanding of the assigned learning material – including relevant facts, concepts, and methods – and to review scientific literature efficiently and critically.

### Oral exams

The certificate of achievement for the compulsory module EEE 520 consists of an oral examination of 30 minutes. The examination date will be arranged directly with the examiner. EEE 520 is considered passed if at least a grade of 4 is achieved. If the examination is failed (grade below 4), the supervisor decides whether a repetition on the same topic/ with the same supervisor is feasible or not. A failed examination can be repeated once.

While the approximate exam date should be entered in the Learning Agreement, the precise exam date has to be arranged among the student, MSc Supervisor, and a co-examiner at least two months before the proposed dates. The exam has to be scheduled before the main thesis period.

If the responsible MSc Supervisor is from an external research organization, the oral exam is administered by the internal (UZH-based) MSc supervisor and includes the external supervisor as a co-examiner. During the oral exam, the student is questioned on the content of the assigned study material and on general biodiversity concepts.

## Part III – Master Thesis

### Procedure

This part lasts 12 months in full time (60 ECTS).

At the end of the MSc thesis project work, the student writes a thesis and designs an accompanying research poster. The written thesis has to comply formally with the common standards applied to scientific publications. The research poster has to be added to the thesis pdf and include the names and affiliations of the collaborators.

Additionally, students must present their final work to their peers in group or departmental meetings or conferences. Their performance in these presentations, including handling of Q&A, will be a part of the final grading. This addition aims to assess the student's ability to communicate their research effectively to a broader audience.

You may find the following guidelines and tips useful:

- [UZH formatting and layout guidelines](#)
- [Tips on writing a thesis](#)
- [Effective poster presentations](#)

On or before the end date indicated on the Learning Agreement, the student has to hand in the pdf copy of the thesis, including the poster, to the MSc Supervisor, MSc Coordinator, and Study Coordinator. In addition, the student needs to hand in a hard copy of the thesis to the Study Coordinator.

If the MSc thesis is failed, a one-time repetition of the MSc thesis with another topic and/or supervisor is possible.

### Evaluation

Upon completion of the final thesis, the MSc Supervisor will evaluate it based on specific criteria and recommend a grade for EEE 500 to the MSc Coordinator, with quarter grades being acceptable. The MSc Coordinator can request revisions for theses not meeting formal or scientific standards, and/or modify the suggested grade. The agreed grade, along with the EEE 520 grades, will be documented on the MSc Grade Form by the MSc Supervisor and then sent to the MSc Coordinator.

Supervisors are expected to provide iterative feedback on the thesis draft, allowing students to make necessary revisions. The evaluation will consider not just the final thesis but the overall research process. The evaluation criteria include:

1. MSc Thesis Evaluation:
  - Research field overview and significance.
  - Problem description, goals, and hypotheses.
  - Methods and reproducibility.
  - Results presentation and discussion.
  - Limitations, future research outlook.
2. Research Poster
  - Key concepts, methods, results, and significance.
  - Logical sequence, clarity, design, and layout.
3. Exit Talk
  - Assessment of presentation quality, clarity, and effectiveness.
  - Performance during Q&A sessions.
4. Overall Process
  - Independence, feedback incorporation.
  - Communication, advice utilization.
  - Scientific discussion participation and presentations.

This approach ensures comprehensive evaluation, considering both the academic quality of the thesis and the student's communicative and research skills.

## Extension

The MSc project lasts one year, except in special circumstances. Such circumstances include illness or injury of the student (requires a doctor's note) and family emergencies.

Circumstances that do not qualify for an extension include:

- Difficulties with the research (e.g., organisms are not growing, analyses are harder than thought, writing takes longer than expected)
- Badly planned Learning Agreement (e.g., setting a hand-in deadline during holidays, failing to anticipate important activities, allocating too little time to EEE 520 Integrated Knowledge in Biodiversity)
- MSc Supervisor being too busy

To request an extension, first discuss the issue with your MSc Supervisor, and then email the request to the MSc and the Study Coordinators (cc your MSc Supervisor).

## Holidays

During the MSc thesis year, the student is expected to work full time at the project. In general, four weeks of holidays are granted, but they must be planned with respect to the needs of the project together with the MSc Supervisor. Holidays do not extend the total duration of one year.

## Completion of the Degree

When the student has completed EEE 520, EEE 500, and the defined modules in the Learning Agreement, the student can apply for the MSc degree via the UZH student portal.

If the student is enrolled in the MSc Biodiversity 120 (including a Minor of 30 ECTS credits), the final degree application can only be submitted after completion of the Major and the Minor.

## Note to Supervisors

Open MSc projects can be posted on the [Ecology Masters Projects](#) list using [THIS FORM](#). You can post either a specific project title or a general description of research topics you offer. Specific projects will stay on the "Current" spreadsheet for one year after the post date and then move to the "Archive" spreadsheet. To keep it in "Current" beyond one year, you can re-post the project. General description of research topics, on the other hand, can stay permanently. You can change the details of a posted project, using the link automatically emailed to you. You can remove a project (e.g., if you already found a student) by changing the title to "please delete".

Supervisors should be aware of their duties and be fluent with the information on this page. To be eligible as supervisor, one should meet the following criteria:

- Be a researcher at UZH or an affiliated organisation
- Directly participate in teaching a BIO or EEE course at UZH
- Have a record of student supervision, teaching, and research
- Ensure adequate contact time with the student

Candidate supervisors who do not fulfil the first two criteria (this may apply, for example, to PhD students, junior postdocs, external supervisors) must seek the help and guidance of a senior researcher, working at UZH, who fulfils all criteria. The senior researcher will ultimately act as the responsible supervisor, supervise the supervision, and bear the primary responsibility.

If you are interested in supervising an MSc student but are unsure if you meet all criteria, please send to the MSc Coordinator:

- a short CV, particularly focusing on supervisory experience;
- a statement of awareness of rules, duties, and responsibilities;
- a statement about teaching contributions to BIO or EEE courses at UZH

The MSc Coordinator will then either confirm you as the responsible supervisor or suggest seeking co-supervision from a senior researcher, who will act as the responsible supervisor, with you as the functional supervisor. The MSc Coordinator will generally liaise with the responsible supervisor.

There is no guarantee to find somebody willing to act as responsible supervisor.