

Study Guide

Master's Degree Programme in Environmental
Sciences 2025/2026

This study guide provides practical information on the Master's Degree Programme in Environmental Sciences. Further sources of information are given in the text and specifically in section 11. The information about lectures in this guide is as accurate as the publication date. The most up-to-date and additional information is given in the [course catalogue](#).

The legally binding document for the Master's degree programme in Environmental Sciences is the German version of the Programme Regulations for the Master of Science ETH in Environmental Sciences (Studienreglement 2013 für den Master-Studiengang Umweltnaturwissenschaften, Ausgabe 29.04.2025 – 8¹). [This English translation](#) is for information purposes only.

Students are requested to visit the departmental website for further information www.usys.ethz.ch/en/studies/environmental-sciences.

Advisor for Master Students:
Susanne Lambrecht
Department of Environmental Systems Science, D-USYS
ETH Zentrum, CHN H 42.1
8092 Zurich

env_science@ethz.ch



Tel: +41 44 633 60 82

Consultations Monday, Wednesday and Thursday by appointment



<https://linktr.ee/dusys>

Welcome!

Dear Master Students in Environmental Sciences:
Welcome to the Department of Environmental Systems Science!

The programme in Environmental Sciences is rich and diverse. It is devoted to the latest developments in science, society and policy with respect to environmental issues, and it opens a broad range of professional perspectives. Given all the pressing environmental problems from local to global scales, it is now relevant and timely to study Environmental Sciences. This booklet aims to guide you through our rich Master's programme. Choosing one of the six Majors allows you to dig deeper in your preferred field of environmental sciences. Different course formats will give you the opportunity to explore the scientific opportunities in your field.

In addition to our specialized Majors, we offer a broad range of Minors and elective courses, which will help you to build your personal profile. A Minor can offer a second disciplinary specialization. Alternatively, you can also choose to expand the perspective of your Major. You have also the option to explore a broad range of topics in environmental sciences based on a suite of individual elective subjects. The following pages will assist you in this choice. The study advisors listed in section 11 will be happy to answer your questions.

The professional internship is an important opportunity to leave the academic ivory tower and gain practical experience applying your knowledge in a company or in public service. It is your responsibility and freedom to use the available resources for finding your internship. There will be an information event to support you and you will learn more about the job market as soon as you start your search. By the way, many students start their Master (MSc) programme with the professional internship². I think this option is preferable over doing the internship only at the very end of your studies (i.e., even after the MSc thesis), as the experiences gained during the internship may shape the choice of subjects during your MSc studies.

Lastly, the MSc thesis comprises half a year of full-time work. Finding a suitable topic may take some time. Therefore, I recommend you to start looking for a thesis topic early enough, about at the beginning of the second semester of your course work.

My best wishes for an inspiring and enriching Master in Environmental Sciences at ETH Zurich!

Andrea Carminati
Director of Studies, study programme Environmental Sciences

Explanations and acronyms	1
1 Environmental Sciences at ETH Zurich	2
1.1 Education in Environmental Sciences – Professional Opportunities	2
1.2 Structure of the Programme	3
1.3 Admission and Application	4
2 Majors	5
2.1 Major in Atmosphere and Climate	6
2.2 Major in Biogeochemistry and Pollutant Dynamics	12
2.3 Major in Ecology and Evolution	16
2.4 Major in Environmental Systems and Policy	21
2.5 Major in Forest and Landscape Management	26
2.6 Major in Human Health, Nutrition and Environment	30
3 Minors and Elective Courses	33
3.1 Minor in Sustainable Energy Use	33
3.2 Minor in Physical Glaciology	34
3.3 Minor in Catchment Management and Natural Hazards	35
3.4 Minor in Forest Engineering and Wood Products	35
3.5 Minor in Agricultural Plant Production and Environment	36
3.6 Minor in Environmental, Resource and Food Economics	37
3.7 Elective Courses	38
4 Professional Internship	40
5 Master's Thesis	42
6 Student Exchange	43

7 Performance Assessments and Master's Degree	45
7.1 General	45
7.2 Types of examinations	45
7.3 Mode and duration	46
7.4 Language	46
7.5 Grading and Repetition	47
7.6 Credit received	47
7.7 Master's Degree	48
8 Educational opportunities during or after the Master's programme	49
8.1 Doctorate	49
8.2 Teaching Certificate in Environmental Studies /	49
Didaktik-Zertifikat in Umweltlehre	49
8.3 Teaching Diploma for Grammar Schools /	50
Lehrdiplom für Maturitätsschulen	50
9 Things to know about the department	51
10 General information and tips	52
10.1 Websites relevant to studies	52
10.2 Communication	53
10.3 Academic calendar	53
10.4 Financing of studies	54
10.5 Military Service	54
10.6 Code of Conduct	54
11 Advice and contact points	55

Explanations and acronyms

The course lists in sections 2 to 5 show course number, course title, semester (HS = autumn semester, FS = spring semester), number of hours, course type and credits available.

Additional remark: the language of instruction is mainly English for the Master's degree programme in Environmental Sciences. A few lectures are offered in German. Please refer to the [course catalogue](#) where the language of instruction is given for each lecture.

Explanations

(Abbreviations as used in the course catalogue)

A	= independent project (Selbstständige Arbeit)
BSc	= Bachelor
cf.	= confer (lat.), compare
CP	= credit points, equivalent to ECTS
D	= Master's Thesis (Master-Arbeit)
D-USYS	= Department of Environmental Systems Science
ECTS	= European Credit Transfer System, workload 25 – 30 hours per ECTS
ESP	= Environmental Systems and Policy (Major)
FLM	= Forest and Landscape Management (Major)
FS	= spring semester (Frühjahrssemester)
G	= lecture with exercise (Vorlesung mit Übung)
HNE	= Human Health Nutrition and Environment (Major)
HS	= autumn semester (Herbstsemester)
h	= e.g. 180 h: total number of contact hours (before, during or after the semester)
K	= colloquium (Kolloquium)
max.	= maximum
MSc	= Master
P	= practical course (Praktikum)
S	= seminar (Seminar)
Sem.	= semester
U	= exercise (Übung)
V	= lecture (Vorlesung)
1,2,..	= contact hour(s) per week (Semesterwochenstunde/n) e.g. 2 V, 3 G + 2 A

1 Environmental Sciences at ETH Zurich

Today's society is confronted by large scale environmental problems: the excessive use of natural resources, destruction and degradation of wildlife habitats, climate change and others. Almost all of these problems result from the fact that human activities are degrading the earth's natural capital at an inordinate rate. In addition to direct effects, environmental degradation also has a major impact on social issues such as health, economy, poverty and national security.

During the Master programme in Environmental Sciences students will be provided with knowledge and understanding of the functioning of the environment. Another focus is to explore the interaction between human beings and the environment. Students learn to analyse environmental problems with scientific methods and develop approaches. They also learn to evaluate these approaches and how to implement them. Working interdisciplinary is very important. It includes natural sciences, social and humanity sciences as well as environmental technologies. The practise of written and oral communication is a particular focus of the study programme.

1.1 Education in Environmental Sciences – Professional Opportunities

The Department of Environmental Systems Science, D-USYS, provides an environment for conducting high-quality research covering a wide range of topics. Teaching is conducted by in-house researchers and external professionals to guarantee a high standard.

The Master's degree in Environmental Sciences is both a recognized and valued qualification in the employment market. The department systematically surveys the careers of the graduates. The results show that they have a high success rate in the employment market. Within only a few months after graduation the majority secure a professional position which matches both their personal goals and their educational background.

Graduates work in all societal sectors: Based on the findings of the biennial [graduate survey](#) by the Federal Statistical Office (2021) almost half of the actual professional activities can be found in a very broad range of the service sector (cf. Figure 1). Most prominent fields are architecture, engineering, environmental and planning offices as well as banking, insurance companies, management consultancy and energy sector. Slightly more than 30% found an appointment in the science sector and 15% of the graduates work in public administration and teaching. 4% are employed by the manufacturing industry and 2% work in the field of agriculture and forestry. Detailed information about job opportunities are described in "[Environmental Sciences: From Studies to Profession](#)" (in German only).



Figure 1: What do ETH Environmental Sciences graduates do after a year?
Surveys 2015, 2017, 2019, 2021, persons in employment only, n = 209

1.2 Structure of the Programme

The Master's degree programme (120 credit points, CP) can be completed within two years and has to be completed within four years. It uses a credit system based on the European Credit Transfer System (ECTS).

The primary language of instruction is English, although some lectures – the ones in this study guide listed with German titles – may be held in German. The language of instruction of each individual course is stated in the online course catalogue of ETH Zurich: www.vvz.ethz.ch.

The Master's degree programme in Environmental Sciences offers several specialisation subjects, majors and minors, allowing a programme to be chosen to match individual needs. The figure below provides an overview of the categories of the Master's degree programme.

Categories of the Master (120 CP)

Major	40 CP
Minor or Electives	10 CP
Electives	10 CP
Internship	30 CP
Master's Thesis	30 CP

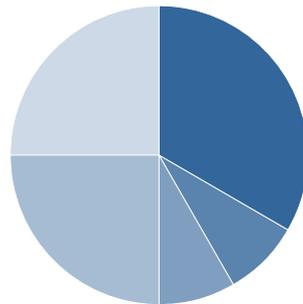


Figure 2: Overview of the categories and credits of the Master's degree programme.

For two semesters, students focus on scientific topics related to their chosen major. 60 CP must be achieved in the following categories: major, minor and/or elective.

- A minimum of 40 CP must be completed in one of the six majors (cf. section 2).
- A minimum of 10 CP must either be completed in a minor or elective courses.
- The major in Environmental Systems and Policy is the only major which requires a minor (cf. section 2.4).
- The remaining 10 CP can be chosen from the course catalogues of ETH Zurich or University of Zurich. For restrictions, see section 3.7 (blue box). It is possible to select more courses of the chosen major, single courses from one or more minors, elective courses or a combination of all. It is also possible to complete a second minor. Minors and/or elective courses (cf. section 3) complement the core courses of the selected major.

At least one semester is spent outside the ETH Zurich, gaining practical work experience during the professional internship with 30 CP (cf. section 4). Finally, a Master's thesis (30 CP, cf. section 5) is completed on a topic selected from the subject range of the major.

Prerequisites for individual major courses are stated in the online ETH course catalogue:

www.vvz.ethz.ch

For further documents and information on the master's programme see:

www.usys.ethz.ch/en/studies/environmental-sciences/master

1.3 Admission and Application

The two-year Master's degree programme is open to students with a Bachelor's degree with an emphasis on environmental sciences, or an equivalent degree. Students who meet the admittance criteria stated in the programme regulations for the Master in Environmental Sciences can apply to the ETH Admission Office to enter the Master's degree programme in Environmental Sciences.

Information for prospective students is available online:

www.ethz.ch/en/studies/master/application

2 Majors

The choice of the major (Vertiefung) involves individual specialisation. However, the guidelines of each major guarantee a selection of course units which form a coherent programme of study, encompassing an appropriate combination of knowledge, general methods, tools and techniques. In order to ensure that the individual study programme fits the individual needs, the students are encouraged to contact the responsible study advisor at the beginning of the Master's degree programme.

Students are also advised to discuss prerequisites for their chosen major with the study advisor before starting their Master's degree studies and to clarify which courses from the Bachelor's degree programme should be chosen as elective courses to ensure prerequisites are met.

Students can choose one of the following six majors:

- Atmosphere and Climate
- Biogeochemistry and Pollutant Dynamics
- Ecology and Evolution
- Environmental Systems and Policy
- Forest and Landscape Management
- Human Health, Nutrition and Environment

2.1 Major in Atmosphere and Climate

For advice regarding this major, students may contact Dr. Hanna Joos, hanna.joos@env.ethz.ch.

Students in the major in Atmosphere and Climate gain in-depth understanding of climate processes and their interactions – ranging from the molecular to the global scale and from short-lived phenomena to changes over millions of years. The programme offers quantitative knowledge on atmospheric dynamics, climate processes and feedbacks, biogeochemical cycles, paleoclimatology and an in-depth training in numerical modelling of weather and climate.

More details about research topics, courses, requirements, learning objectives and possible positions please visit the website www.usys.ethz.ch/en/studies/environmental-sciences/master/majors/atmosphere-climate.

The curriculum of the major programme comprises the following categories with the minimum number of CP to be acquired indicated in table 1.

A minimum of 40 CP must be obtained in the following categories:

Table 1: Structure of the major in Atmosphere and Climate

Module	CP
Introduction Course	2
Colloquia	3
Seminars	6
Lab and Field Work	5
Choose three modules out of five: · Weather Systems and Atmospheric Dynamics* · Climate Processes and Feedback* · Atmospheric Composition and Cycles* · Climate History and Paleoclimatology* · Hydrology and Water Cycle*	24

* Students have to obtain in each module at least 6 CP. The total of all three modules must be at least 24 CP.

Well suited minors for the major in A&C are:

- Minor in Sustainable Energy Use
- Minor in Physical Glaciology

Compulsory Courses (16 CP)³

Introduction Course (2 CP)				
Course Number	Title	Sem.	Type	CP
701-1213-00	Introduction Course to Master Studies Atmosphere and Climate	HS	2 G	2

Colloquia (3 CP)				
Course Number	Title	Sem.	Type	CP
651-4095-01	Colloquium Atmosphere and Climate 1	HS/FS	1 K	1
651-4095-02	Colloquium Atmosphere and Climate 2	HS/FS	1 K	1
651-4095-03	Colloquium Atmosphere and Climate 3	HS/FS	1 K	1

Seminars (6 CP)				
Course Number	Title	Sem.	Type	CP
701-1211-01	Master's Seminar: Atmosphere and Climate 1	HS/FS	2 S	3
701-1211-02	Master's Seminar: Atmosphere and Climate 2	HS/FS	2 S	3

Lab and Field Work (5 CP)				
Course Number	Title	Sem.	Type	CP
701-1260-00	Climatological and Hydrological Field Work (Block Course)	FS	3 P	2.5
701-1262-00	Atmospheric Chemistry Lab Work (Block Course)	FS	5 P	2.5
701-1264-00	Atmospheric Physics Lab Work	FS	1 P	2.5
701-1266-00	Weather Discussion	FS	2 P	2.5
701-1270-00	High Performance Computing for Weather and Climate (Block Course)	FS	3 G	3

³ The courses listed in the following sections refer to the ETH Zurich course catalogue valid on the publication date of this brochure. The order of listing in each section follows these rules: all courses of study programme Environmental Science (numbers starting with 701) which take place in the autumn semester are listed first. Followed by courses of other study programmes in autumn semester with increasing numbers. The same rules apply for the spring semester. Detailed information for each course is given in the ETH Zurich online course catalogue: www.vvz.ethz.ch.

Module Courses (24 CP, choose 3 out of 5 Modules)

Module: Weather Systems and Atmospheric Dynamics				
Course Number	Title	Sem.	Type	CP
701-1221-00	Dynamics of Large-Scale Atmospheric Flow	HS	2 V + 1 U	4
701-1222-00	Weather and Climate Modeling	FS	2 V + 1 U	4
701-1224-00	Mesoscale Atmospheric Systems – Observation and Modelling	FS	2 V	2
701-1226-00 ⁴	Inter-Annual Phenomena and Their Prediction	FS	2 G	2

Module: Climate Processes and Feedback				
Course Number	Title	Sem.	Type	CP
701-1235-00 ⁵	Cloud Microphysics	HS/FS	2 V + 1 U	4
701-1251-00	Land-Climate Dynamics	HS	2 G	3
701-1222-00	Weather and Climate Modeling	FS	2 V + 1 U	4
701-1228-00	Cloud Dynamics: Hurricanes	FS	3 G	4
701-1232-00	Radiation and Climate Change	FS	2 G	3
701-1252-00	Climate Change Uncertainty and Risk: From Probabilistic Forecasts to Economics of Climate Adaptation	FS	2 V + 1 U	3

Module: Atmospheric Composition and Cycles				
Course Number	Title	Sem.	Type	CP
701-1239-00	Aerosols I: Physical and Chemical Principles	HS	2 V + 1 U	4
701-1214-00	Atmospheric Chemistry and Global Change	FS	2 V + 1 U	4
701-1234-00	Tropospheric Chemistry	FS	2 G	3
701-1238-00	Advanced Field and Lab Studies in Atmospheric Chemistry and Climate (Block Course)	FS	2 P	3
701-1317-00	Global Biogeochemical Cycles and Climate	FS	3 G	3

⁴ uncertain if lecture will be offered in spring semester 2026

⁵ The lecture in the spring semester will only take place if at least ten students are registered.

Module: Climate History and Paleoclimatology				
Course Number	Title	Sem.	Type	CP
651-4057-00	Climate History and Palaeoclimatology	HS	2 G	4
701-1317-00	Global Biogeochemical Cycles and Climate	FS	3 G	3
651-4004-00	The Global Carbon Cycle – Reduced	FS	2 G	3
651-4044-04	Micropalaeontology and Molecular Palaeontology	FS	2 G	3
651-4157-00 ⁶	Past Droughts, Floods and Rainfall Variability	FS	2 S	2
651-4157-02 ⁶	Impact and Drivers of Past Ocean Circulation Change	FS	2 S	2
651-4226-00	Geochemical and Isotopic Tracers of the Earth System	FS	2 V	3

Module: Hydrology and Water Cycle				
Course Number	Title	Sem.	Type	CP
701-1251-00	Land-Climate Dynamics	HS	2 G	3
701-1253-00	Analysis of Climate and Weather Data	HS	2 G	3
701-1644-00	Mountain Hydrology	HS	3 G	5
102-0468-10	Watershed Modelling	HS	4 G	6

Electives

Additionally to the compulsory 40 CP in the major Atmosphere and Climate students choose up to 20 CP in the category electives/minors. Elective courses listed below are a selection of courses to deepen the students' knowledge in the chosen major. This list is not complete. The following elective courses are especially recommended to supplement the corresponding modules.

Electives do not count towards major modules.

Electives: Weather Systems and Atmospheric Dynamics				
Course Number	Title	Sem.	Type	CP
701-1236-00	Messmethoden in der Meteorologie und Klimaforschung	FS	1 V	1
701-1258-00	Global Atmospheric Circulation and Climate	FS	1 G	3

Electives: Climate Processes and Feedback				
Course Number	Title	Sem.	Type	CP
701-1257-00	European Climate Change	HS	2 G	3

Electives: Atmospheric Composition and Cycles				
Course Number	Title	Sem.	Type	CP
701-0234-00	Messmethoden in der Atmosphärenchemie	FS	1 V	1
701-1244-00	Aerosols II: Applications in Environment and Technology	FS	2 V + 1 U	4

Electives: Climate History and Paleoclimatology				
Course Number	Title	Sem.	Type	CP
651-4041-00	Sedimentology I: Physical Processes and Sedimentary Systems	HS	2 G	3
651-4043-00	Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems	HS	2 G	3
651-4049-00	Conceptual and Quantitative Methods in Geochemistry	HS	2 G	3
651-4341-00	Source to Sink Sedimentary Systems	HS	2 G	3
651-4901-00	Quaternary Dating Methods	HS	2 G	2

Electives: Hydrology and Water Cycle				
Course Number	Title	Sem.	Type	CP
701-0535-00	Environmental Soil Physics/ Vadose Zone Hydrology	HS	2 V + 1 U	3
102-0287-00	River Basin Erosion	HS	2 G	3
651-4023-00	Groundwater	HS	4 G	4
102-0448-00	Groundwater II	FS	4 G	6
102-0488-00	Water Resources Management	FS	2 G	3

⁶ Lectures will be offered every second year (please check course catalogue).

Recommended as additional elective courses				
Course Number	Title	Sem.	Type	CP
701-1241-00	Atmospheric Remote Sensing	HS	2 G	3
701-1271-00	Statistical Learning for Atmospheric and Climate Science	HS	2 G	3
701-3001-00	Environmental Systems Data Science: Data Processing	HS	2 G	3
402-0621-00	Introduction to Accelerator Mass Spectrometry	HS	2 V + 1 U	6
651-4273-00	Numerical Modelling in Fortran	HS	2 V	3
651-4273-01	Numerical Modelling in Fortran (Project)	HS	1 U	1
701-1270-00	High Performance Computing for Weather and Climate (Block Course)	FS	3 G	3
701-1282-00	Climate Change Mitigation: Emissions Reduction	FS	2 V	3
701-3003-00	Environmental Systems Data Science: Machine Learning	FS	2 G	3

Recognition of ECTS from the University of Bern:

- Courses from the Master's programme in Climate Sciences at the Graduate School of Climate Sciences, Oeschger Centre, University of Bern are part of the Master's programme in Environmental Sciences (MSc UMNW), specialization in Atmosphere and Climate (A&C) at ETH Zurich and do not count as mobility credit points
- Recognition within the MSc UMNW, A&C specialization is possible under elective courses (not within the specialization itself)
- A maximum of 15 credit points can be counted under the electives in coordination with the major coordinator
- This offer applies to students with an ETH Bachelor's degree as well as students without an ETH Bachelor's degree
- Students should send the Transcript of records as a PDF to the Study Administration Office at env_science@ethz.ch

2.2 Major in Biogeochemistry and Pollutant Dynamics

For advice regarding this major, students may contact Dr. Marcel Müller, marcel.mueller@env.ethz.ch.

Human activities influence the natural cycles of many elements on a regional to global scale and lead to emissions of numerous substances, with significant consequences for the environment. The major in Biogeochemistry and Pollutant Dynamics focuses on biogeochemical cycles in ecosystems and the behavior of relevant pollutants in the environment. Biogeochemical cycles are influenced by a complex interplay of physical, chemical, and biological processes. Thus, this major is highly interdisciplinary.

For more details please visit the website for the major Biogeochemistry and Pollutant Dynamics www.usys.ethz.ch/en/studies/environmental-sciences/master/majors/biogeochemistry-pollutant-dynamics.

The curriculum of the major comprises five modules. The minimum number of CP to be acquired for each category is indicated in table 2 below.

A minimum of 40 CP must be obtained in the following categories:

Table 2: Structure of the major in Biogeochemistry and Pollutant Dynamics

4 modules plus Term Paper and Seminar	CP
Biogeochemical Processes	15
Applications	6
Methods and Tools: Modelling Courses	3
Methods and Tools: Field and Lab Courses	9
Term Paper and Seminar	7

Well-suited minors for the major in Biogeochemistry and Pollutant Dynamics are:

- Agricultural Plant Production and Environment
- Catchment Management and Natural Hazards

Biogeochemical Processes (15 CP)⁷				
Course Number	Title	Sem.	Type	CP
701-1313-00	Isotopes and Biomarkers in Biogeochemistry	HS	2 G	3
701-1315-00	Biogeochemistry of Trace Elements	HS	2 G	3
701-1644-00	Mountain Hydrology	HS	3 G	5
701-1310-00	Environmental Microbiology	FS	2 V	3
701-1312-00	Ecotoxicology	FS	3 V	3
701-1314-00	Environmental Organic Chemistry	FS	2 V	3
701-1317-00	Global Biogeochemical Cycles and Climate	FS	3 G	3

Applications (6 CP)				
Course Number	Title	Sem.	Type	CP
701-1346-00	Climate Change Mitigation: Carbon Dioxide Removal	HS	2 G	3
701-1351-00	Anthropogenic Particles in the Environment	HS	2 G	3
101-0339-00	Environmental Geotechnics – Polluted sites and Waste disposal	HS	2 G	3
751-5101-00	Biogeochemistry and Sustainable Management	HS	2 G	3
701-0998-00	Environmental and Human Health Risk Assessment of Chemicals	FS	3 G	3
102-0338-01	Waste Management and Circular Economy	FS	2 G	3

Methods and Tools: Field and Lab Courses (9 CP)				
Course Number	Title	Sem.	Type	CP
701-1331-00	Biogeochemistry of Trace Elements Laboratory	HS	4 P	3
701-1333-00	Isotopes and Biomarkers in Biogeochemistry Laboratory	HS	4 P	3
701-1337-00	Forest Soils in a Changing Environment	HS	4 P	3
701-1339-00	Soil Solids Laboratory	HS	4 G	3
701-1673-00	Environmental Measurement Laboratory	HS	4 G	5
701-0230-00	Biogeochemistry of Alpine Habitats (Block Course)	FS	3 P	2
701-1330-00	Ecotoxicology Laboratory (Block Course)	FS	6 P	3
701-1332-00	Analysis of Organic Pollutants Laboratory	FS	6 P	3
529-0135-00	Cook and Look: Watching Functional Materials in Situ	FS	6 G	3

Methods and Tools: Modelling Courses (3 CP)				
Course Number	Title	Sem.	Type	CP
701-0426-00	Modelling Aquatic Ecosystems	FS	2 G	3
701-1240-00	Modelling Environmental Pollutants	FS	2 G	3
701-1338-00	Biogeochemical Modelling of Sediments, Lakes and Oceans	FS	2 G	3

Term Paper and Seminar (compulsory, 7 CP)				
Course Number	Title	Sem.	Type	CP
701-1302-00	Term Paper 2: Seminar	HS/FS	1 S	2
701-1303-00	Term Paper 1: Writing	HS/FS	6 A	5

⁷ The courses listed in the following sections refer to the ETH Zurich course catalogue valid on the publication date of this brochure. The order of listing in each section follows these rules: all courses of study programme Environmental Science (numbers starting with 701) which take place in the autumn semester are listed first. Followed by courses of other study programmes in autumn semester with increasing numbers. The same rules apply for the spring semester. Detailed information for each course is given in the ETH Zurich online course catalogue: www.vvz.ethz.ch.

Electives

Additionally to the compulsory 40 CP in the major Biogeochemistry and Pollutant Dynamics students choose up to 20 CP in the category electives / minors. Elective courses listed below are a selection of courses to deepen the students' knowledge in the chosen major. This list is not complete. The following "elective courses" are especially recommended:

Electives do not count towards major modules.

Electives				
Course Number	Title	Sem.	Type	CP
701-0203-00	Environmental Analytical Chemistry	HS	2 G	3
701-3001-00	Environmental Systems Data Science: Data Processing	HS	2 G	3
651-4341-00	Source to Sink Sedimentary Systems	HS	2 G	3
701-1214-00	Atmospheric Chemistry and Global Change	FS	2 V + 1 U	4
701-1634-00	PReSens: Proximal and Remote Sensing For Soil and Vegetation	FS	5 G	5
701-1646-00	Carbon and Nutrient Cycling under Global Change	FS	3 G	5
701-3003-00	Environmental Systems Data Science: Machine Learning	FS	2 G	3
651-4004-00	The Global Carbon Cycle – Reduced	FS	2 G	3
651-4056-00	Limnogeology	FS	2 G	3
651-4168-00	CryoGeoEcology: Snow and Snow Cover Field Course	FS	48 P	2
751-4902-00	Modern Pesticides – Mode of Action, Residues and Environmental Fate	FS	2 V	2

2.3 Major in Ecology and Evolution

For advice regarding this major, students may contact Dr. Sébastien Wielgoss, sebastien.wielgoss@env.ethz.ch.

The expertise of ecologists and evolutionary biologists is increasingly needed to address many of the world's most pressing scientific and social problems. These include the spread of invasive species, the risk of emerging diseases, the undesirable impacts of novel technologies, and the limits to ecosystem stability.

The major in Ecology and Evolution aims to provide students with the skills and expertise to tackle these issues through a highly flexible teaching program.

For more details please visit the website for the major Ecology and Evolution www.usys.ethz.ch/en/studies/environmental-sciences/master/majors/ecology-evolution.

The curriculum of the major comprises the following categories with the minimum number of CP to be acquired indicated in table 3.

A minimum of 40 CP must be obtained in the following categories:

Table 3: Structure of the major in Ecology and Evolution

Module	CP
Foundations	8
Advanced Concepts & Applications	12
Scientific Skills	
· Term Paper and Seminar	8
· Quantitative and Computational Expertise · Laboratory and Field Expertise · Expertise in Biological Diversity	6
Students choose from the above mentioned categories.	6

The compulsory courses 701-1460-00 Ecology and Evolution: Term Paper (autumn semester) and 701-1461-00 Ecology and Evolution: Seminar (spring semester) must be taken in this order.

Foundations (at least 8 CP) ⁸				
Course Number	Title	Sem.	Type	CP
701-0328-00	Advanced Ecological Processes	HS	2 V	4
636-0017-00	Computational Biology	HS	3 G + 2 A	6
701-1427-00	Experimental Evolution	FS	2 S	4
701-1708-00	Infectious Disease Dynamics	FS	2 V	4

Advanced Concepts and Applications courses must sum to **at least 12 CP**.

Students select from a range of courses building in depth knowledge of specific areas of ecology and evolution.

Advanced Concepts				
Course Number	Title	Sem.	Type	CP
701-0263-01	Seminar in Evolutionary Ecology of Infectious Diseases	HS	2 G	3
701-1409-00	Research Seminar: Ecological Genetics	HS	1 S	2
701-1471-00	Ecological Parasitology	HS	1 V + 1 P	3
701-1676-01	Genomics of Environmental Adaptation	HS	3 G	2
701-1703-00	Evolutionary Medicine for Infectious Diseases	HS	2 G	3
751-5101-00	Biogeochemistry and Sustainable Management	HS	2 G	3
701-1424-00	Guarda-Workshop in Evolutionary Biology (Block Course)	FS	4 P	3
701-1450-00	Conservation Genetics	FS	4 G	3
701-1462-00	Evolution of Social Behavior and Biological Communication	FS	2 V	3
262-0200-00	Bayesian Phylodynamics	FS	2 G + 2 A	4
751-4805-00	Recent Advances in Biocommunication	FS	2 S	3

Students explore management, conservation, and restoration of diverse biological systems, thereby gaining an appreciation for the relevance of ecological and evolutionary principles to the informed management of natural areas.

⁸ The courses listed in the following sections refer to the ETH Zurich course catalogue valid on the publication date of this brochure. The order of listing in each section follows these rules: all courses of study programme Environmental Science (numbers starting with 701) which take place in the autumn semester are listed first. Followed by courses of other study programmes in autumn semester with increasing numbers. The same rules apply for the spring semester. Detailed information for each course is given in the ETH Zurich online course catalogue: www.vvz.ethz.ch.

Applications				
Course Number	Title	Sem.	Type	CP
701-1453-00	Ecological Assessment and Evaluation	HS	3 G	3
701-1613-01	Landscape Patterns and Processes	HS	3 G	5
701-1631-00	Foundations of Ecosystem Management	HS	3 G	5
701-1446-00 ⁹	Forest and Landscape Conservation and Management (Block Course)	FS	9 P	4
701-1456-00 ⁹	Applied Ecosystem Management (Block Course in Serbia)	FS	4 P	3
701-1646-00	Carbon and Nutrient Cycling under Global Change	FS	3 G	5

Scientific Skills (at least 14 CP)

A major in Ecology and Evolution leads to a range of careers requiring technical expertise. For this students will take the compulsory term paper (5 CP) and seminar (3 CP) and have the opportunity to build additional technical competencies with courses from three different categories (6 CP): Quantitative and Computational Expertise, Laboratory and Field Expertise, and Expertise in Biological Diversity.

Term Paper and Seminar (compulsory, 8 CP)

Mentored by a senior scientist, students engage with a topic of their choosing in a semester long term paper, followed by a seminar to the same topic in the consecutive spring semester.

Term Paper and Seminar (compulsory, 8 CP)				
Course Number	Title	Sem.	Type	CP
701-1460-00	Ecology and Evolution: Term Paper	HS	11 A	5
701-1461-00	Ecology and Evolution: Seminar	FS	5 S	3

⁹ The two courses are offered alternately every second year. Spring semester 2026: Applied Ecosystem Management (Field Course in Serbia).

Quantative and Computational Expertise				
Course Number	Title	Sem.	Type	CP
701-1411-00	Environmental DNA – Concepts and applications for biodiversity monitoring at the landscape scale	HS	3 G	3
701-1677-00	Quantitative Vegetation Dynamics: Models from Tree to Globe	HS	3 G	3
701-1418-00	Modelling Course in Population and Evolutionary Biology (Block Course)	FS	6 P	4
701-1679-00	Landscape Modelling of Biodiversity: From Global Changes to Conservation	FS	3 G	5

Laboratory and Field Expertise				
Course Number	Title	Sem.	Type	CP
701-1425-01	Genetic Diversity: Techniques	HS	4 P	2
701-1437-00	Aquatic Ecology I	HS	3 V	3
701-1437-03	Aquatic Ecology II	HS	6 U	5
701-0362-00	Böden und Vegetation der Alpen (Blockkurs)	FS	2 P	2
701-0364-00	Flora und Vegetation der Alpen	FS	1 V	1
701-1425-00	Genetic Diversity: Analysis (Block Course)	FS	3 G	2
701-1428-00	Animal Migration and Research in Field Ornithology (Block Course)	FS	5 P	3
701-1432-00	Ecology Lab (Block Course)	FS	3 G	2

Expertise in Biological Diversity				
Course Number	Title	Sem.	Type	CP
701-1437-01	Bestimmungskurs aquatische Makroinvertebraten	HS	2 P	2
701-1437-02	Bestimmungskurs Süßwasser-algen und aquatische Mikroinvertebraten	HS	2 P	2
551-0216-00	Mykologischer Feldkurs	FS	5 P	3
551-1130-00	Selected Topics in Mycology	FS	2 G	4

Electives

Additionally to the compulsory 40 CP in the major Ecology and Evolution students choose up to 20 CP in the category electives/minors. Elective courses listed below are a selection of courses to deepen the students' knowledge in the chosen major. This list is not complete. The following elective courses are especially recommended.

Electives do not count towards major modules.

Electives				
Course Number	Title	Sem.	Type	CP
701-3001-00	Environmental Systems Data Science: Data Processing	HS	2 G	3
551-0205-00	Challenges in Plant Sciences	HS	2 K	2
751-4504-00	Plant Pathology I	HS	2 G	2
701-1414-00	Evolutionary Biology (Block Course)	FS	3 P	3
701-1480-00	Evolutionary Developmental Biology	FS	2 S	3
701-1604-00	Wildtierökologie und -management (Blocktage)	FS	2 G	3
701-1606-00	Advanced Forest Entomology and Pathology	FS	3 V	5
701-3003-00	Environmental Systems Data Science: Machine Learning	FS	2 G	3
751-5110-00	Insects in Agroecosystems	FS	2 V	2
751-5118-00	Global Change Biology	FS	2 G	2

2.4 Major in Environmental Systems and Policy

For advice regarding this major, students may contact Dr. Jamie McCaughey, jamie.mccaughey@usys.ethz.ch.

Contributing effectively to environmental policy- and decision-making requires an understanding not only of environmental systems, but also of the main environmental policy instruments, political systems, as well as skills at policy modelling and appraisal. The major in Environmental Systems and Policy (ESP) conveys an understanding of political systems, environmental policy approaches, as well as practical experience at policy analysis and decision support.

For more details please visit the website for the major Environmental Systems and Policy www.usys.ethz.ch/en/studies/environmental-sciences/master/majors/environmentalsystems.

The curriculum of the major programme is structured in three modules, each with a minimum of 9 and a maximum of 22 CP indicated in table 4. Within each module, there is one compulsory course (required course). The total amount of CP has to sum up to 40.

A minimum of 40 CP must be obtained in the following categories:

Table 4: Structure of the major in Environmental Systems and Policy

Module	CP (Minimum)	CP (Maximum)	Compulsory Course
Module 1: Theoretical foundations for environmental policy	9	22	Climate Policy OR Environmental Governance
Module 2: Modelling and Statistical Analysis	9	22	Quantitative Policy Analysis and Modeling
Module 3: Policy Engagement	9	22	Principles of Management for Sustainability

Students have to choose one minor focusing on environmental or technological systems. Appropriate minors for the major in ESP are (see as well section Electives below):

- Sustainable energy use
- Catchment management and natural hazards
- Forest engineering and wood products
- Agricultural plant production and environment
- Physical Glaciology

Students also have the flexibility to propose a set of courses from an area of environmental systems science for which no minor currently exists (e.g. concerning climate systems) to satisfy this requirement. The proposal has to be discussed with and to be approved by Dr. Jamie McCaughey, (jamie.mccaughey@usys.ethz.ch). For a word document to prepare the proposal go to www.usys.ethz.ch/en/studies/environmental-sciences/master/majors/environmentalsystems.

Module 1: Theoretical foundations for environmental policy (at least 9 CP)¹⁰

One of these two courses is required (6 CP)				
Course Number	Title	Sem.	Type	CP
701-1563-00	Climate Policy	HS	3 G	6
701-1651-00	Environmental Governance	HS	3 G	6

And at least the remaining 3 CP from the following courses				
Course Number	Title	Sem.	Type	CP
701-1563-00	Climate Policy	HS	3 G	6
701-1590-00	Geographies of Environmental Governance (University of Zurich)	HS	2 G	3
701-1651-00	Environmental Governance	HS	3 G	6
851-0609-06	Governing the Energy Transition	HS	2 V	2
860-0023-00	International Environmental Politics	HS	2 V	3
701-0758-00	Ökologische Ökonomik: Grundlagen und Wachstumskritik	FS	2 V	2
701-0764-00	Kritische Auseinandersetzung mit dem ökonomischen Wachstumsparadigma	FS	1 S	1
701-1580-00	Environmental and Agricultural Regulation: Law and Governance	FS	1 V	3
701-1654-00	Forest Economics and Environmental Valuation	FS	2 V	2
363-0537-00	Sustainability Economics	FS	2 G	3
363-1076-00	Accelerating Net-Zero Transitions: Technology, Firms, and Policy	FS	2 G	3

¹⁰ The courses listed in the following sections refer to the ETH Zurich course catalogue valid on the publication date of this brochure. The order of listing in each section follows these rules: all courses of study programme Environmental Science (numbers starting with 701) which take place in the autumn semester are listed first. Followed by courses of other study programmes in autumn semester with increasing numbers. The same rules apply for the spring semester. Detailed information for each course is given in the ETH Zurich online course catalogue: www.vvz.ethz.ch.

364-0576-00	Advanced Sustainability Economics	FS	3 G	3
752-2121-00	Consumer Behaviour II	FS	2 G	2
752-2123-00	Risk Awareness, Risk Acceptance and Trust	FS	2 V	3
860-0022-00	Complexity and Global Systems Science	FS	2 S	3

Module 2: Modelling and Statistical Analysis (at least 9 CP)**Required Course (6 CP)**

Course Number	Title	Sem.	Type	CP
701-1565-00	Quantitative Policy Analysis and Modeling	HS	4 G	6

And at least the remaining 3 CP from the following courses

Course Number	Title	Sem.	Type	CP
701-1453-00	Ecological Assessment and Evaluation	HS	3 G	3
701-3001-00	Environmental Systems Data Science: Data Processing	HS	2 G	3
101-0491-00	Agent Based Modeling in Transportation	HS	4 G	6
363-0541-00	Economic Dynamics and Complexity	HS	3 G	3
701-1252-00	Climate Change Uncertainty and Risk: From Probabilistic Forecasts to Economics of Climate Adaptation	FS	2 V + 1 U	3
701-1522-00	Multi-Criteria Decision Analysis	FS	2 G	3
701-1674-00	Spatial Analysis, Modelling and Optimisation	FS	4 G	5
701-3003-00	Environmental Systems Data Science: Machine Learning	FS	2 G	3
752-2110-00	Multivariate Statistical Analysis	FS	2 V	3

Module 3: Engagement (at least 9 CP)**Required Course (6 CP)**

Course Number	Title	Sem.	Type	CP
701-1562-00	Principles of Management for Sustainability	FS	4 P	6

And at least the remaining 3 CP from the following courses

Course Number	Title	Sem.	Type	CP
701-1563-00	Climate Policy	HS	3 G	6
751-2107-00	Agrarian and Environmental Values: Tensions, Synergies, Practices and Policies	HS	3 S + 2 P	5
701-1350-00	Case Studies in Environment and Health	FS	2 V	4
701-1502-00	Transdisciplinary Case Study	FS	15 P	7
701-1571-00	Integration in Science, Policy and Practice: Inter- and Transdisciplinary Concepts, Methods, Tools	FS	2 S	4
701-1580-00	Environmental and Agricultural Regulation: Law and Governance	FS	1 V	3
701-1654-00	Forest Economics and Environmental Valuation	FS	2 V	2
751-1652-00	Food Security – From the Global to the Local Dimension	FS	2 G	2
751-2700-00	Bodenmarkt und Bodenpolitik	FS	2 G	2

Electives

Students must complete a total of 60 CP in the categories major and minor/elective courses. A minimum of 40 CP is required for the major. In the major ESP at least 10 CP have to focus on a particular environmental or technological system, for instance by choosing a respective minor (see blue box on page 21). The remaining 10 CP can be completed either in the major, in the minor, in the electives or a combination of these categories.

Additionally to the compulsory 50 CP (40 for the major plus 10 for a minor) in the major ESP students choose up to 10 CP in the category electives/minors. Elective courses listed below are a selection of courses to deepen the students' knowledge in the chosen major. This list is not complete. The following elective courses are especially recommended.

Electives do not count towards major modules.

Electives				
Course Number	Title	Sem.	Type	CP
103-0317-00	Spatial Planning and Development	HS	2 G	3
701-1282-00	Climate Change Mitigation: Emissions Reduction	FS	2 V	3
701-1446-00 ¹¹	Forest and Landscape Conservation and Management (Block Course)	FS	120 P	4
701-1456-00 ¹¹	Applied Ecosystem Management (Block Course in Serbia)	FS	4 P	3
701-1572-00	Inter- and Transdisciplinary Integration in Science, Policy and Practice (Summer School)	FS	30 S	2
103-0468-00	Participatory Environmental Modeling	FS	2 G	3
103-0570-00	Urban Planning and Urban Policy	FS	2 G	4
376-1663-00	Climate, Ethics and Human Health	FS	2 G	3

¹¹ The two courses are offered alternately every second year. Spring semester 2026: Applied Ecosystem Management (Field Course in Serbia).

2.5 Major in Forest and Landscape Management

For advice regarding this major, students may contact Prof. Dr. Verena Griess, verena.griess@env.ethz.ch or Noëmi Brüggemann, noemi.brueggemann@usys.ethz.ch.

Forests and landscapes are dynamic systems shaped by changes in topography, soils, climate, human population, social values, technology, and policy, as well as by interactions among these drivers. These evolving factors directly impact biodiversity and a wide range of ecosystem services. The Forest and Landscape Management (FLM) major provides a comprehensive understanding of these complex, interrelated systems and processes by integrating perspectives from both the natural and social sciences. Emphasis is placed on management strategies that actively shape system dynamics to support biodiversity, sustain and enhance ecosystem services, and promote long-term human well-being.

For more details please visit the website for the Major Forest and Landscape Management www.usys.ethz.ch/en/studies/environmental-sciences/master/majors/forest-landscape-management.

The core of this major consists of four modules: Forests, Landscapes, Soils and Data. Students acquire a minimum of 5 credit points (CP) from each of these modules, plus 15 additional CPs from courses listed across all four modules, allowing them to develop a distinct profile. Furthermore, all students complete a compulsory project-based capstone course (5 CP). Combining courses from the core modules and the project-based capstone course, students must earn a minimum of 40 CP (Table 5).

A minimum of 40 CP must be obtained in the following categories:

Table 5: Structure of the major in Forest and Landscape Management

Module	CP
Forests	5
Landscapes	5
Soils	5
Data	5
Students choose from the above mentioned categories	15
Project-based capstone course	5

Well suited minors for the major in FLM are:

- Forest Engineering and Wood Products
- Catchment Management and Natural Hazards

Forests (at least 5 CP)¹²				
Course Number	Title	Sem.	Type	CP
701-1635-00	Silviculture for Resilient and Multifunctional Forests	HS	2 G	5
701-1657-00	Landscape Level Forest Management Planning	HS	4 G	5
701-1606-00	Advanced Forest Entomology and Pathology	FS	3 V	5
701-1616-00	Growth of Trees and Forests – from Germination to Tree Death	FS	2 G	5
701-1636-01	Ökologie und Management von Gebirgswäldern (Blocktage)	FS	3 G	5
701-1654-00	Forest Economics and Environmental Valuation	FS	2 V	2

Landscapes (at least 5 CP)				
Course Number	Title	Sem.	Type	CP
701-1613-01	Landscape Patterns and Processes	HS	3 G	5
701-1631-00 ¹³	Foundations of Ecosystem Management	HS	3 G	5
701-1644-00	Mountain Hydrology	HS	3 G	5
701-1651-00	Environmental Governance	HS	3 G	6
701-1679-00	Landscape Modelling of Biodiversity: From Global Changes to Conservation	FS	3 G	5
103-0338-00 ¹⁴	Projektwoche Landschaftsentwicklung (Blockkurs)	FS	9 P	5

Soils (at least 5 CP)				
Course Number	Title	Sem.	Type	CP
701-1343-00	Soil-Plant Water Relations	HS	2 V	3
701-1343-01	Soil-Plant Water Relations: Exercises	HS	2 U	2
701-1673-00	Environmental Measurement Laboratory	HS	4 G	5
701-1646-00	Carbon and Nutrient Cycling under Global Change	FS	3 G	5

¹² The courses listed in the following sections refer to the ETH Zurich course catalogue valid on the publication date of this brochure. The order of listing in each section follows these rules: all courses of study programme Environmental Science (numbers starting with 701) which take place in the autumn semester are listed first. Followed by courses of other study programmes in autumn semester with increasing numbers. The same rules apply for the spring semester. Detailed information for each course is given in the ETH Zurich online course catalogue: www.vvz.ethz.ch.

¹³ This lecture is a prerequisite for the field trip: 701-1446-00 Forest and Landscape Conservation and Management (Field Course).

¹⁴ This course has a limited capacity. The timing of the field week is coordinated with other FLM field courses.

Data (at least 5 CP)				
Course Number	Title	Sem.	Type	CP
701-1673-00	Environmental Measurement Laboratory	HS	4 G	5
701-1674-00	GIS III: Advanced Methods, Tools & Competencies	FS	4 G	5
701-1634-00	PReSens: Proximal and Remote Sensing for Soil and Vegetation	FS	5 G	5

Project-based capstone course (compulsory, 5 CP)				
Course Number	Title	Sem.	Type	CP
701-1692-00	Applied Forest and Landscape Management Lab (Block Course with Preparation Days)	FS	8 P	5

Electives

Additionally to the compulsory 40 CP in the major Forest and Landscape Management students choose up to 20 CP in the category electives/minors. Electives courses listed below are a selection of courses to deepen the students' knowledge in the chosen major. This list is not complete. The following elective courses are especially recommended.

Electives do not count towards major modules.

Electives: Forests				
Course Number	Title	Sem.	Type	CP
701-1620-00	Tree Genetics – Concepts and Applications	HS	2 G	3
701-1645-00 ¹⁵	Forest Operations	HS	2 G	3
701-1677-00	Quantitative Vegetation Dynamics: Models from Tree to Globe	HS	3 G	3
701-1682-00	Dendroecology	HS	3 G	3
751-5125-00	Stable Isotope Ecology of Terrestrial Ecosystems	HS	2 G	2
701-1544-00 ¹⁶	Forest Access and Transportation (Block Days)	FS	2 G	3
701-1602-00	Long-term Dynamics in Swiss Forest Reserves (Block Days)	FS	3 P	2
701-1640-00 ¹⁷	Silviculture of Temperate Forests (Block Days)	FS	6 P	3

¹⁵ does not take place in HS 2025

¹⁶ uncertain if offer takes place in FS 2026

¹⁷ This lecture consists of 9 day trips.

Electives: Landscapes				
Course Number	Title	Sem.	Type	CP
701-1453-00	Ecological Assessment and Evaluation	HS	3 G	3
701-1446-00 ¹⁸	Forest and Landscape Conservation and Management (Block Course to Scotland)	FS	120 P	4
701-1456-00 ¹⁸	Applied Ecosystem Management (Field Course in Serbia)	FS	4 P	3
701-1604-00	Wildtierökologie und -management (Blocktage)	FS	2 G	3
751-5118-00	Global Change Biology	FS	2 G	2
103-0330-00	Landscape Aesthetics	FS	2 G	2

Electives: Soils				
Course Number	Title	Sem.	Type	CP
701-1337-00	Forest Soils in a changing environment	HS	4 P	3
701-1339-00	Soil Solids Laboratory	HS	4 G	3
751-3401-00	Pflanzenernährung I	HS	2 V	2
651-4341-00	Source to Sink Sedimentary Systems	HS	2 G	3
701-0524-00	Soil biology	FS	2 V	3

Electives: Data				
Course Number	Title	Sem.	Type	CP
701-1411-00	Environmental DNA – Concepts and applications for biodiversity monitoring at the landscape scale	HS	3 G	3
701-3001-00	Environmental Systems Data Science: Data Processing	HS	2 G	3
401-0627-00	Smoothing and Nonparametric Regression with Examples	HS	2 G	4
701-3003-00	Environmental Systems Data Science: Machine Learning	FS	2 G	3
751-5102-00	Biogeochemical Modeling of Agroecosystems	FS	3 G	3

¹⁸ The two courses are offered alternately every second year. Spring semester 2026: Applied Ecosystem Management (Field Course in Serbia).

2.6 Major in Human Health, Nutrition and Environment

For advice regarding this major, students may contact Prof. Dr. Roland Regös, roland.regoes@env.ethz.ch.

Human health is determined by complex interactions between individual lifestyles (nutrition, behaviour), environmental factors (climate, pollutants, infectious diseases, radiation), and societal aspects (medical infrastructure, information, prevention, regulation). The major in Human Health, Nutrition and Environment (HNE) conveys an in-depth understanding of the interaction between human populations, pollutants, infectious diseases and diet.

For more details please visit the website for the Major Human Health, Nutrition and Environment www.usys.ethz.ch/en/studies/environmental-sciences/master/majors/human-health-nutrition-environment.

The curriculum of the major programme comprises the following categories with the minimum number of CP to be acquired indicated in table 6. The curriculum of the major programme comprises the four modules listed below and a term paper. The module Public Health is compulsory for all students of this major. Two further modules have to be chosen.

While within the module Public Health and each of the two other modules a minimum of 10 CP must be acquired, the total minimum number of CP to be earned in three modules is 34 (34 CP + 6 CP from the Term Paper add up to a minimum of 40 CP for the major).

A minimum of 40 CP must be obtained in the following categories:

Table 6: Structure of the major in Human Health, Nutrition and Environment

Module	CP
Module: Public Health (PH)	10
Choose two modules out of three: · Nutrition and Health* · Environment and Health* · Infectious Diseases*	20
Students choose from the above mentioned modules (including PH).	4
Term Paper	6

* In each module the students have to achieve at least 10 CP

We recommend starting this major in the autumn semester. The compulsory course 701-1701-00 Human Health, Nutrition and Environment: Term Paper is only offered in autumn semester. The completion of this course is usually in February.

Public Health (compulsory for all students of this major programme) ¹⁹				
Course Number	Title	Sem.	Type	CP
401-0629-00 ²⁰	Applied Biostatistics	HS	3 G	4
752-6105-00	Epidemiology and Prevention	HS	2 V	3
752-6151-00 ²⁰	Public Health Concepts	HS	2 V	3
376-xxxx-xx ²¹	Designing Effective Projects for Promoting Health@Work	FS	2 G	3
752-6104-00	Nutrition for Health and Development	FS	2 V	3

Nutrition and Health				
Course Number	Title	Sem.	Type	CP
752-2122-00	Food and Consumer Behaviour	HS	2 V	2
752-6101-00	Nutrition and Chronic Disease	HS	2 V	3
752-1300-01	Food Toxicology	FS	1 G	3
752-6102-00	Nutrition throughout the life cycle	FS	2 V	3
752-6303-00	Neurobiology of Eating and Drinking	FS	2 G	3
752-6402-00	Nutri-genomics	FS	2 V	3

Environment and Health				
Course Number	Title	Sem.	Type	CP
376-1353-00	Nanostructured Materials Safety	HS	1 V	2
701-0662-00	Environmental Exposures (Air Pollution and Noise) and Health Effects	FS	2 V	3
701-1312-00	Ecotoxicology	FS	2 V	3
701-1350-00	Case Studies in Environment and Health	FS	2 V	4
701-1704-01	Health Impact Assessment: Concepts and Case Studies	FS	2 V	3

¹⁹ The courses listed in the following sections refer to the ETH Zurich course catalogue valid on the publication date of this brochure. The order of listing in each section follows these rules: all courses of study programme Environmental Science (numbers starting with 701) which take place in the autumn semester are listed first. Followed by courses of other study programmes in autumn semester with increasing numbers. The same rules apply for the spring semester. Detailed information for each course is given in the ETH Zurich online course catalogue: www.vvz.ethz.ch.

²⁰ Key lecture of the module

²¹ This lecture will be offered for two more years in spring semester 2026 and 2027

Infectious Diseases				
Course Number	Title	Sem.	Type	CP
701-0263-01	Seminar in Evolutionary Ecology of Infectious Diseases	HS	2 G	3
701-1471-00	Ecological Parasitology	HS	1 V + 1 P	3
701-1703-00	Evolutionary Medicine for Infectious Diseases	HS	2 G	3
551-0223-00	Immunology III	HS	2 V	4
752-4009-00	Molecular Biology of Foodborne Pathogens	HS	2 V	3
701-1708-00	Infectious Disease Dynamics	FS	2 V	4
751-7408-00	One Health	FS	2 G	3

Term Paper (compulsory)				
Course Number	Title	Sem.	Type	CP
701-1701-00	Human Health, Nutrition and Environment: Term Paper	HS	13 A	6

Electives

Additionally to the compulsory 40 CP in the major HNE students choose up to 20 CP in the category electives/minors. Electives courses listed below are a selection of courses to deepen the students' knowledge in the chosen major. This list is not complete. The following elective courses are especially recommended.

Electives do not count towards major modules.

Electives				
Course Number	Title	Sem.	Type	CP
701-3001-00	Environmental Systems Data Science: Data Processing	HS	2 G	3
701-3003-00	Environmental Systems Data Science: Machine Learning	FS	2 G	3

3 Minors and Elective Courses

Minors (Ergänzungsfächer) are units of several lectures, which focus on a specific subject and are awarded with at least 10 CP. It is compulsory to complete one minor if you have chosen the major in Environmental Systems and Policy (please see 2.4 Major in Environmental Systems and Policy). If you have chosen another major you can take one or two minors or electives only.

Elective courses can be taken from the entire ETH course catalogue and a number of courses at the University of Zurich²² (cf. section 3.7). Courses listed under the section major (even the chosen major) count also as elective courses.

ENHANCE courses (max. 4 CP) count as electives only for students with an ETH Bachelor's degree cf chapter 3.7.

The description of the different minors are on the following website:

www.usys.ethz.ch/en/studies/environmental-sciences/master/electives-minors.

3.1 Minor in Sustainable Energy Use

For advice regarding this minor, students may contact Prof. Dr. Christian Pohl, christian.pohl@usys.ethz.ch.

Sustainable Energy Use				
Course Number	Title	Sem.	Type	CP
701-0967-00 ²³	Projektentwicklung im Bereich erneuerbarer Energien	HS	2 G	2
701-1346-00	Climate Change Mitigation: Carbon Dioxide Removal	HS	2 G	3
227-0731-00	Power Market I – Portfolio and Risk Management	HS	4 G	6
701-1282-00	Climate Change Mitigation: Emissions Reduction	FS	2 V	3
151-0244-00	Introduction to Energy Systems	FS	2 V + 2 U	4
151-0928-00	CO2 Capture and Storage and the Industry of Carbon-Based Resources	FS	3 G	4

²² This does not apply to language courses please see section 3.7 blue box Language Courses.

²³ Very good German skills required

227-0664-00	Technology and Policy of Electrical Energy Storage	FS	2 G	3
227-0730-00	Power Market II – Modeling and Strategic Positioning	FS	4 G	6
363-0514-00	Energy Economics and Policy	FS	2 G	3
529-0191-01	Electrochemical Energy Conversion and Storage Technologies	FS	2 V + 1 U	4

3.2 Minor in Physical Glaciology

For advice regarding this minor, students may contact Dr. Hanna Joos, hanna.joos@env.ethz.ch.

Physical Glaciology				
Course Number	Title	Sem.	Type	CP
101-0289-00	Applied Glaciology	HS	2 G	4
651-1581-00	Seminar in Glaciology	HS	2 S	3
651-4077-00 ²⁴	Quantification and Modeling of the Cryosphere (University of Zurich)	HS	1 V	3
651-4101-00	Physics of Glaciers	HS	3 G	3
101-0288-00	Snow and Avalanches: Processes and Risk Management	FS	2 G	3
651-1504-00	Snowcover: Physics and Modelling	FS	3 G	4
651-4162-00	Field Course Glaciology	FS	6 P	3

²⁴ Course at the University of Zurich (UZH), details may be subject to changes.

3.3 Minor in Catchment Management and Natural Hazards

For advice regarding this minor, students may contact Prof. Dr. Harald Bugmann, harald.bugmann@env.ethz.ch.

Catchment Management				
Course Number	Title	Sem.	Type	CP
701-0565-00	Grundzüge des Naturgefahrenmanagements	HS	3 G	3
101-1250-00	Transport Processes in Torrents	HS	2 V	3
101-0278-00	Flood Protection	FS	2 G	3
101-0288-00	Snow and Avalanches: Processes and Risk Management	FS	2 G	3
651-4070-00	Landslide Analysis	FS	3 G	5

3.4 Minor in Forest Engineering and Wood Products

For advice regarding this minor, students may contact Prof. Dr. Ingo Burgert, iburgert@ethz.ch.

Students must obtain 12 CP. The courses in "Forest Operations"²⁵ (autumn semester) and "Forest Access and Transportation"²⁶ (spring semester) are mandatory. If it is not possible to reach a minimum of 10 CP or complete both compulsory lectures due to a shortage of offered lectures please contact Ingo Burgert, iburgert@ethz.ch.

Minor in Forest Engineering and Wood Products				
Course Number	Title	Sem.	Type	CP
701-1645-00 ²⁵	Forest Operations	HS	2 G	3
101-0637-10	Wood Structure and Function	HS	2 G	3
101-0637-20	Wood processing	HS	2 G	3
701-1544-00 ²⁶	Forest Access and Transportation (Block Days)	FS	2 G	3
101-0678-00	Wood Physics & Wood Materials	FS	2 G	3

²⁵ does not take place in HS 2025

²⁶ uncertain if offer takes place in FS 2026

3.5 Minor in Agricultural Plant Production and Environment

For advice regarding this minor, students may contact Prof. Dr. Achim Walter, achim.walter@usys.ethz.ch.

At least 6 CP have to be gained from the list of Advanced Courses.
All courses with German titles are taught in German.

Basic Courses				
Course Number	Title	Sem.	Type	CP
751-3700-00	Ökophysiologie	HS	2 V	2
751-0280-00	Kulturpflanzen im World Food System	FS	2 V	2
751-4002-00	Graslandssysteme	FS	2 G	2
751-4107-01	Einführung in den Acker- und Futterbau	FS	2 V	2
751-5000-00	Sustainable Agroecosystems I	FS	2 G	2

Advanced Courses				
Course Number	Title	Sem.	Type	CP
701-1343-00	Soil-Plant Water Relations	HS	2 V	3
751-2105-00	Political Ecology of Food and Agriculture	HS	2 G	3
751-2107-00	Agrarian and Environmental Values: Tensions, Synergies, Practices and Policies	HS	3 S + 2 P	5
751-4003-01	Current Topics in Grassland Sciences (autumn)	HS	2 S	2
751-4104-00	Alternative Crops	HS	2 V	2
751-4704-00	Weed Science	HS	2 G	3
751-4003-02	Current Topics in Grassland Sciences (spring)	FS	2 S	2
751-4902-00	Modern Pesticides – Mode of Action, Residues and Environmental Fate	FS	2 V	2
751-xxxx-xx	Cultivating Knowledge: Agroecology Through Projects	FS	? G	5

3.6 Minor in Environmental, Resource and Food Economics

For advice regarding this minor, students may contact Dr. Robert Huber, rhuber@ethz.ch.

At least 6 CP have to be gained from the list of Block I.
All courses with German titles are taught in German.

Block I				
Course Number	Title	Sem.	Type	CP
751-0423-00	Risk Analysis and Risk Management in Agriculture	HS	2 G	3
751-0903-00	Mikroökonomie des Agrar- und Lebensmittel-sektors	HS	2 V	3
363-0537-00	Sustainability Economics	FS	2 G	3
751-1500-00	Entwicklungsökonomik	FS	2 V	3
751-1555-00	Empirical Agricultural Economics	FS	2 G	3
751-1575-00	Applied Optimization in Agricultural Economics	FS	2 G	3

Block II				
Course Number	Title	Sem.	Type	CP
751-1311-00	Einführung in das Agrarmanagement	HS	2 V	2
751-1573-00	Dynamic Simulation in Agricultural and Regional Economics	HS	2 V	3
751-2103-00	Socioeconomics of Agriculture	HS	2 V	2
751-2105-00	Political Ecology of Food and Agriculture	HS	2 G	3
751-2903-00	Evaluation of Agricultural Policies	HS	2 G	3
751-2102-00	History of Food and Agriculture	FS	2 V	3
751-2312-00	Agrarpolitik	FS	2 V	3
751-2700-00	Bodenmarkt und Bodenpolitik	FS	2 G	2

3.7 Elective Courses

Course units that can be taken individually as electives may come from the entire range of courses offered by ETH Zurich and the University of Zurich. Special agreements apply to language courses, please see blue box "Language Courses".

Note:
Students in Environmental Sciences do not have to take courses in Science in Perspective!

Each major and minor course can be individually chosen as an elective course. By taking elective courses recommended in the list of the chosen major the knowledge gained in the major may be deepened and expanded; by choosing complementary or interdisciplinary courses it may be broadened.

Courses at University of Zürich must be selected through mystudies. Courses at other universities (e.g. University of Bern, École Polytechnique Fédérale de Lausanne (EPFL)), which cannot be selected through myStudies, must be taken as "exchange courses/Mobilitätsfächer"²⁷ (recognition in the Master's degree programme only upon approval by the Director of Studies beforehand). Students must provide evidence of passing the required performance assessment issued by the university which offers the respective course (title of the course, CP, result/grade of the performance assessment). Students not taking any minors but choosing elective courses instead have various possibilities of gaining CP.

Students who have to fulfil **additional requirements** are not allowed to count these courses towards the category Elective Courses.

Cf. section 8.2 and 8.3: It is also possible to gain the 20 CP required in the category elective courses in view of the prerequisites for the Teaching Diploma ("Lehrdiplom") in Biology, Chemistry and Physics or the Teaching Certificate ("Didaktik-Zertifikat in Umweltlehre"). Some of the lectures for the Teaching Diploma or Certificate can be count for both the Master's Degree Programme and Teaching Diploma or Certificate.

For details see www.usys.ethz.ch/en/studies/teacher-training.

²⁷ Only students who have a BSc Degree from ETH Zurich are allowed to take exchange courses.

Especially Recommended Elective Courses				
Course Number	Title	Sem.	Type	CP
701-0019-00	Readings in Environmental Thinking	HS	2 S	3
701-3001-00	Environmental Systems Data Science: Data Processing	HS	2 G	3
751-5510-00	Introduction to Agricultural Robotics	HS	2 G	3
701-1502-00	Transdisciplinary Case Study	FS	15 P	7
701-1571-00	Integration in Science, Policy and Practice: Inter- and Transdisciplinary Concepts, Methods, Tools	FS	2 S	4
701-3003-00	Environmental Systems Data Science: Machine Learning	FS	2 G	3
751-5127-00	Microbiomics I: The Microbiome of the Plant-Soil System	FS	2 G	2
751-5127-01	Microbiomics II: Metabarcoding – from Bioinformatics to Statistics	FS	2 P	1
851-0655-00	ETH Global Development Summer School	FS	90 G	3

Language Courses

- A maximum of 4 CP can be accredited as elective courses and count towards the Master Degree.
- Language courses in the mother tongue are not recognized.
- Language courses in English, French, German, Italian and Spanish are accredited from level B2 (advanced) onwards (for non-native speakers).
- All other Language courses offered by the Department of Humanities, Social and Political Sciences are accredited from level A1 on. Please note: students in Environmental Sciences do not have to take courses in Science in Perspective!
- Course registration either through the [Language Center of the University and ETH Zurich](#) or by the [Department of Humanities, Social and Political Sciences](#).
- Language courses taken during an exchange semester are not recognized.
- The course/course(s) (max. 4 CP) can then be accredited as elective course/s and is/are listed on the current transcript (Leistungsüberblick) and the Academic Record.
- The verification of courses is carried out by the study administration.

4 Professional Internship

The professional internship (Berufspraxis) is a compulsory part of the Master's programme and should last for at least 18 weeks (full-time workload). During the internship, students will learn how to professionally handle environmental issues outside of ETH through their own practical experiences. They should apply the knowledge acquired from their studies and work on a (partial) project or a defined task in the field of environmental sciences. The internship can be completed in Switzerland or abroad, which broadens the experience of how environmental problems are addressed in other countries. Students must find the internship themselves.

During the internship, students must register in the Master of Environmental Sciences and apply for a leave of absence, reason for absence: Compulsory Practical Experience. No further registration in myStudies required.

After completion of the internship, students must submit a personal report in which they describe their main tasks and reflect on their performance and competences.

For detailed information please consult the corresponding Moodle course:

<https://moodle-app2.let.ethz.ch/auth/shibboleth/login.php>

In addition, the Internship Coordinator holds an information session in the fall semester.

Professional Internship				
Course Number	Title	Sem.	Type	CP
701-1001-00	Professional Internship	HS/FS	0P	30

Figure 3 gives an overview of the process and the required documents of the compulsory internship.

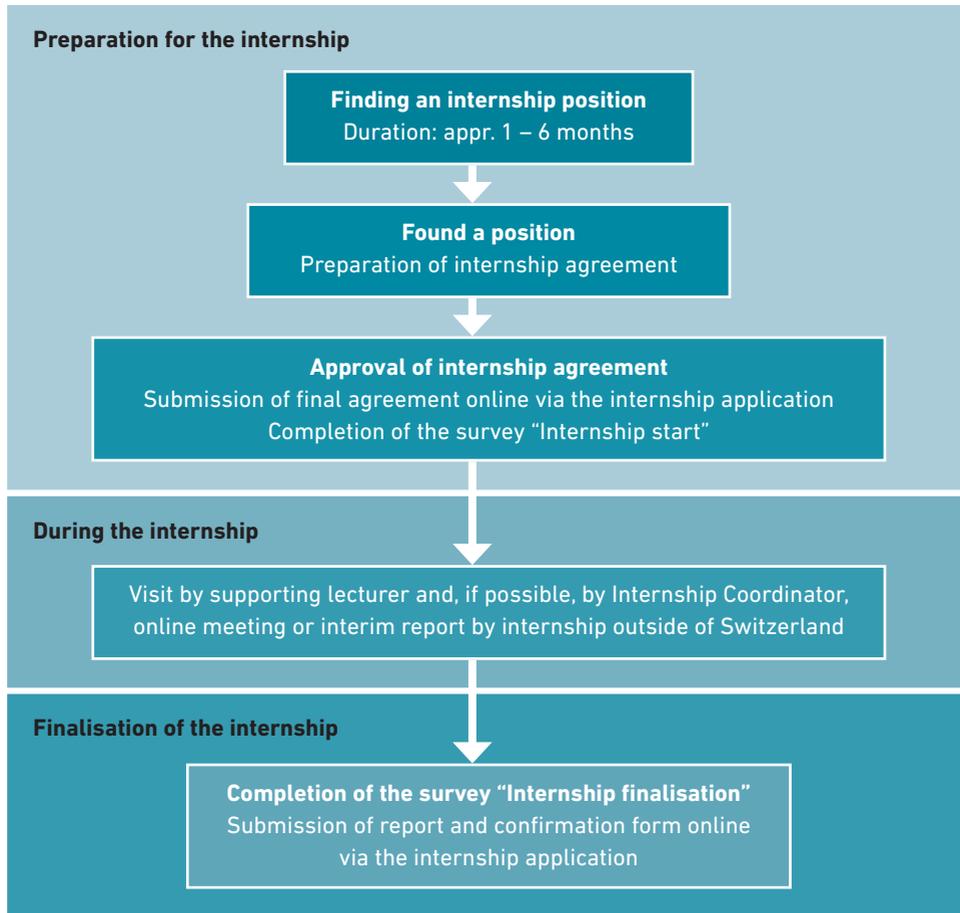


Figure 3: Procedure for compulsory professional internship.

Please consult the corresponding Moodle course for more detailed information about the different aspects of the compulsory internship: <https://moodle-app2.let.ethz.ch/course/view.php?id=15228>

5 Master's Thesis

The Master's thesis is a scientific thesis written independently by the student and it should be closely related to the subject areas of the chosen specialisation.

Permission to write the Master's thesis is only granted to students who

- have successfully completed their Bachelor's degree.
- have fulfilled all additional requirements for admission to the programme,
- have completed at least 32 of the required 40 CP in the core subjects of their specialisation.

The Master's thesis is evaluated by the supervisor and at least one co-supervisor.

The duration of the Master's thesis is set to maximum 28 weeks (6 months plus 2 weeks). The supervisor sets the starting and submission dates. On request the Director of Studies can extend the deadline if cogent grounds are given.

For projects offered, authorised supervisors and further information go to

www.usys.ethz.ch/en/studies/environmental-sciences/master/thesis.

Master's Thesis				
Course Number	Title	Sem.	Type	CP
701-1002-00	Master's Thesis	HS/FS	P	30

6 Student Exchange

Studying at another university for one semester brings both personal and professional enrichment. In many cases, it is possible to learn a new language and/or improve existing language skills. Immersion in another culture leads to unforgettable experiences.

Prerequisite and organization for an exchange in the Master's programme

- A Bachelor's degree from ETH Zurich with a minimum grade of 4.5.
- The majority of the CP earned abroad must be recognized for the studies at ETH Zurich.
- A maximum of 20 CP from another university will be credited towards electives.
- It is not possible to have CP recognized in the major.
- Students must obtain approval in advance from the departmental exchange coordinator (cf. section 11).
- The organization of a semester abroad requires some commitment and must be started a year in advance.

An exchange semester can be carried out within Switzerland or Europe or outside Europe. Further information is published on the following websites:

- [Environmental Sciences Programme](#) and
- [Student Portal/Study abroad/Exchange](#)

It is possible to do the Master thesis and/or the professional internship abroad. Students without a Bachelor's degree from ETH can take advantage of this option, as these courses are taken and administered at ETH. Therefore, they do not count as semesters abroad.

Students intending to complete their Master's thesis at another university are to find a supervisor at D-USYS and a co-supervisor at their host university in advance. The regulations are given in the Programme regulations under

www.usys.ethz.ch/en/studies/environmental-sciences/documents/master.

ENHANCE

ENHANCE offers short educational opportunities with a stay abroad. These opportunities are open to all students, regardless of grades and the university where they earned their bachelor's degree.

Master's students with an ETH Bachelor's degree can be credited with a maximum of 4 CP as an elective subject. Further CPs are listed on the supplementary sheet.

Master's students without an ETH Bachelor's degree cannot be credited any CPs. All credits are listed on the supplementary sheet.

Information on the ENHANCE educational opportunities and general conditions can be found at www.ethz.ch/en/the-eth-zurich/global/network/university-alliances/enhance/educational-offers

7 Performance Assessments and Master's Degree

7.1 General

All regulations concerning studies at the ETH are available in the "Rechtssammlung der ETH Zürich"²⁸.

The credit system used is based on the European Credit Transfer System (ECTS, in this brochure is synonymous with CP). CP are a standard measure for the students' working time required to reach the educational goals. Calculations are based on a total of 1500 to 1800 working hours per year, equivalent to 60 credits. Thus, 1 credit corresponds to 25 to 30 hours of total work.

7.2 Types of examinations

Assessments are in the form of written or oral examinations, written reports, oral presentations and active participation (e.g. in field courses, colloquia, seminars). A distinction is made between session examinations, end-of-semester examinations, and graded or ungraded semester performances:

Session examinations

- written or oral
- graded
- registration via myStudies at the Examination Office required
- exact date and time will be announced by the Examination Office. The examinations are listed in the personal examination schedule in myStudies
- take place in calendar weeks 4 to 7 (session examinations after autumn semester) or 32 to 35 (session examinations after spring semester)
- a maximum of 11 session examinations may be registered

End-of-semester examinations

- written or oral
- graded
- registration via myStudies at the Examination Office required
- exact date and time will be announced by the Examination Office. The examinations are listed in the personal examination schedule in myStudies

28 www.ethz.ch/en/studies/legal-principles-degrees/legal-basis

- takes place within the last two weeks of the lecture time or in the two weeks following the lecture time

Semester performance

- graded or ungraded
- the lecturer informs the students at the beginning of the course about the form of performance assessment, the examination material, the mode of examination (e.g. active participation in practicals and excursions, written work, a presentation, duration, language)
- registration/cancellation with the lecturer may be required
- any time: before, during, at the end or after the lecture time
- Master's Thesis: The supervisor as well as at least one co-supervisor (an expert in the topic) will grade the Master's thesis. The [Master's thesis evaluation form](#) states which criteria of the thesis will be evaluated.
- Professional Internship: The performance will be assessed on the basis of the report(s) by the supervising lecturer and the Internship Coordinator with passed/failed and if approved, 30 CP will be awarded.

More information about the different types of [performance assessments](#) is given on the [student portal](#).

The category "Performance assessment" for each lecture in the [Course Catalogue](#) or [Ordinance on Course Units and Performance Assessments at ETH Zurich](#) contains detailed information about the course performance assessment. Additional information is found here: www.usys.ethz.ch/en/studies/environmental-sciences/master/courses-performance-assessments.

7.3 Mode and duration

The mode and duration (session and end-of-semester examinations) of the examinations are listed in the course catalogue. The lecturers are obliged to inform the students in writing at the beginning of a course about the exact examination material, the exact form and the permitted aids.

7.4 Language

The instruction language at the Master's level is English, however written and oral assessments may be offered in English and/or German. Students must inform the responsible examiner in writing at the time they register for an examination that they will complete the performance in the language of their choice.

The language of instruction is governed by the relevant directives of the Rector²⁹.

29 www.ethz.ch/content/dam/ethz/common/docs/weisungssammlung/files-en/languages-of-instruction.pdf

7.5 Grading and Repetition

Session and end-of-semester-examinations as well as the Master's thesis are evaluated with a grade between one (lowest) and six (highest). Other assessments may also be rated with passed/failed. The assessment of a semester performance can be evaluated either with grades or with pass/fail. Study performances are considered satisfactory if they receive a grade of at least 4.0 or passed.

A failed performance assessment may be repeated once.

7.6 Credit received

Credits are only issued, and always allocated in their full amount, for satisfactory performance according to the requirements stated in the ETH course catalogue. It is not possible to divide the CP into different categories.

The results of an examination or other performance assessment can be viewed by students via myStudies. The students receive notifications by mail about the assessed academic performance and the acquired CP (interim certificates). This also indicates how to proceed in the event of any discrepancies. After each examination session in spring and autumn students have to make sure that their interim academic record in myStudies is complete.

For further information see the Programme Regulations for the Master of Science ETH in Environmental Sciences (Studienreglement 2013 für den Master-Studiengang Umweltnaturwissenschaften, Ausgabe 29.04.2025 – 8³⁰).

Master's Degree Graduation Ceremony

The next Master's Degree Graduation Ceremony is planned for June 19th, 2026. Further information can be found on the website: [Master's degree and Graduation Ceremony](#)

7.7 Master's Degree

Before requesting the Master's diploma, students must have obtained a minimum of 120 CP, as described in the [Programme Regulations](#). A maximum of 130 CP can be recognized for the academic record. If students reach more than 130 CP, then the remaining will be listed on the addendum. All graduates are given a final academic record. The final academic record lists students major and any minors by name. The overall average grade is calculated as the weighted mean of the individual grades on the academic record. The weight attached to each individual grade is based on the number of CP assigned to the course to which it relates. Student ranking in the year of graduation (in comparison with other graduates who have received their final academic record over the last 11 months) is based on overall average grade.

Graduates receive a degree certificate (optionally in German, French or Italian) and a Diploma Supplement. Students degree certificate will only mention students major.

The Master's degree entitles students to use the following academic title:

Master of Science ETH in Environmental Sciences (for short: MSc ETH Environmental Sc.)

The academic title in German:

Master of Science ETH in Umweltnaturwissenschaften (for short: MSc ETH Umwelt-Natw.)

More Information:

[Master's degree – Department of Environmental Systems Science | ETH Zurich](#)

8 Educational opportunities during or after the Master's programme

8.1 Doctorate

The Department of Environmental Systems Science and its research institutions offer outstanding conditions for a doctorate: an innovative atmosphere, state-of-the-art equipment and laboratories, and an environment inspiring young scientific talents to be successful. The doctorate involves independent scientific research work supervised by a professor.

Doctoral studies at the ETH Zurich generally take three to four years. On successful completion, candidates are awarded the title "Doctor of Sciences (Dr. sc. ETH Zürich)". For details and regulations for doctoral studies at the Department of Environmental Systems Science see www.usys.ethz.ch/en/doctorate.

8.2 Teaching Certificate in Environmental Studies / Didaktik-Zertifikat in Umweltlehre

The Department of Environmental Systems Science offers a Teaching Certificate (Didaktik-Zertifikat) in Environmental Studies, which provides graduates with a basic didactic qualification for a broad range of professional activities in the field of education. The language of instruction is German. Therefore the following information is given in German.

Die didaktische Ausbildung kann nach dem Erwerb des Bachelor-Diploms begonnen werden. Die Ausbildung zum Didaktik-Zertifikat (DZ) in Umweltlehre bescheinigt den erfolgreichen Abschluss einer didaktischen Grundausbildung in Umweltnaturwissenschaften und qualifiziert für die Lehrtätigkeit in Ökologie und Umweltlehre an Berufsschulen, Höheren Fachschulen, und Fachhochschulen sowie in der ausserschulischen Aus- und Weiterbildung von Jugendlichen und Erwachsenen. Sie befähigt dazu, umweltspezifisches Wissen an ein breites Publikum zu vermitteln. Voraussetzung für den Erhalt des Zertifikats ist ein universitärer Master- oder Diplom-Abschluss in Umweltnaturwissenschaften oder eine gleichwertige Ausbildung. Die Ausbildung zum DZ umfasst 24 Kreditpunkte. Das Didaktik-Zertifikat Umweltlehre der ETH Zürich ist schweizweit anerkannt. Das Staatssekretariat für Bildung, Forschung und Innovation (SBFI) hat am 14. November 2014 die [Anerkennung](#) verfügt.

Es ist möglich, Lehrveranstaltungen aus dem Bereich Erziehungswissenschaften (max. 8 KP) sowohl für das Master-Studium als auch für das Didaktik-Zertifikat Umweltlehre anzurechnen. Auf den Webseiten des Departements und der ETH Zürich sind weitere Informationen erhältlich: www.usys.ethz.ch/weiterbildung/didaktische-ausbildung

8.3 Teaching Diploma for Grammar Schools / Lehrdiplom für Maturitätsschulen

A Teaching Diploma in Biology, Chemistry or Physics depending on the chosen major can be completed at ETH Departments of Biology, Chemistry or Physics. However candidates might be requested to fulfil extensive additional requirements. These Teaching Diplomas provide accreditation to teach at a grammar school (Gymnasium). The language of instruction is German. Therefore the following information is given in German.

Die Ausbildung zum Lehrdiplom kann nach dem Erwerb des Bachelor-Diploms begonnen werden. Mit einem Master-Abschluss in Umweltnaturwissenschaften ist es möglich, ein Lehrdiplom für Maturitätsschulen in Biologie, Chemie oder Physik zu erwerben. Das Lehrdiplom bescheinigt den erfolgreichen Abschluss einer pädagogisch-didaktischen Ausbildung für die Lehrtätigkeit an Maturitätsschulen (Kurz- und Langgymnasien). Der Ausbildungsumfang beträgt 60 Kreditpunkte.

Die Zulassung zu dieser Ausbildung ist mit einer fachwissenschaftlichen Zusatzausbildung im Umfang von einem halben bis anderthalb Jahren (je nach Fach und individuellem Studienplan) verbunden. Die Zusatzausbildung kann jedoch während der Master-Ausbildung teilweise im Rahmen der Wahlfächer abgeschlossen werden.

Auf den Webseiten der ETH Zürich sind für Maturitätsschulen genauere Informationen zu finden, insbesondere auch die Zusatzausbildung betreffend: www.ethz.ch/de/studium/didaktische-ausbildung/studienangebot/lehrdiplom-fuer-maturitaetsschulen

9 Things to know about the department

The Department of Environmental Systems Sciences (D-USYS) offers the two degree programmes in agricultural and environmental sciences (each with a Bachelor's and a consecutive Master's degree programme). The D-USYS organizes the teaching and examinations of its Bachelor's and Master's degree programmes, monitors compliance with the regulations, and adapts the programmes to new developments and findings.

The D-USYS is lead by the head of the department. He represents the D-USYS externally and presides over the Department Conference. This conference is the most important decision-making body of the department and is formed by all professors of the department, representatives of the assistants, the technical and administrative staff and the students. The Departmental Conference elects the Directors of Studies, who are responsible for educational matters in the respective degree programmes.

All matters of instruction are handled by the two instructional committees. These committees continuously review the quality of the degree programmes, are concerned that the education is constantly adapted to new developments, and are also places of discussion for the major and minor difficulties in daily teaching. In the teaching commission, students are equally represented as assistants and lecturers. The great weight of the students expresses the conviction that a strong co-responsibility helps to improve the success of the education.

The study secretariats are the contact points for administrative questions regarding the degree programmes.

10 General information and tips

10.1 Websites relevant to studies

Recommended sources of information for general information about studying at ETH Zurich and for curriculum planning:

Study Environmental Sciences

Information on studies, study operations, contact persons, office hours, etc.:
www.usys.ethz.ch/en/studies/environmental-sciences

Regulations, templates, forms for the Environmental Sciences program

www.usys.ethz.ch/en/studies/environmental-sciences/documents

myStudies – Students use "myStudies" to manage their studies:

www.lehrbetrieb.ethz.ch/myStudies/login.view?lang=en

Bring your own device (BYOD) –policy and FAQ:

www.ethz.ch/students/en/studies/byodstudium

Academic calendar – All important semester and examination information:

www.usys.ethz.ch/en/news-events/academic-calendar

Course Catalogue – Up-to-date information on content, objectives, performance assessments, etc. of all courses offered at ETH Zurich: www.vvz.ethz.ch

Important addresses in connection with the infrastructure

Information on the services offered at the ETH campus locations:

www.ethz.ch/en/campus/getting-to-know

Building and situation plans:

www.ethz.ch/services/en/service/rooms-and-buildings/building-orientation

myPath – Catalogue of extracurricular activities and initiatives at ETH Zurich

www.mypath.ethz.ch/en/index

Data transfer Polybox:

www.polybox.ethz.ch

10.2 Communication

Communication takes place only to the personal ETH student e-mail address. The Academic Services and the Office of Student Affairs will inform the student by e-mail about the necessary activities regarding enrollment and exam registration as well as about available exam results. Lecturers also provide information by e-mail. Lecture notes are usually available for download on a learning platform and are not sent out. Often, access to these documents is only possible if the corresponding subject has been taken.

10.3 Academic calendar

Lectures are held during the autumn semester (HS; mid-September to late December) and the spring semester (FS; mid-February to late May/early June). Session exams take place outside the lecture time. They are conducted in the calendar weeks 4 to 7 after the autumn semester and in calendar weeks 32 to 35 after the spring semester. End-of-semester examinations are held at the end of the lecture time or following the lecture time. There are special deadlines for all exam registrations. This information is available on [myStudies](#) and is also communicated to all students on time by Academic Services www.usys.ethz.ch/en/news-events/academic-calendar.

Lecture duration and start

A lesson lasts 45 min, followed by a 15 min break. The start of the lecture varies:

- Lecture start ETH Zentrum: always xx:15 (i.e. 08 = 08:15).
- Lecture start ETH Hönggerberg: always xx:45 (i.e. 08 = 07:45 !) except HIL area
- Start of lectures UZH Irchel: 08/09 and 13/14/15 always xx:00; otherwise: xx:15

www.ethz.ch/students/en/studies/academic-support/course-catalogue/lectures-times.

Semester enrollment, lecture enrollment, exam enrollment

All administrative activities of the students are done via the web application "myStudies". The semester enrollment as well as the registration of the course units should be done as early as possible, at the latest by the end of the second week of the semester. No examination can be registered without lecture enrollment. **For session examinations and end-of-semester examinations, registration takes place via myStudies.** As a rule, no special registration is required for courses with semester performances (the type of examination can be found in the course catalogue) – unless the lecturer requests it.

Examinations and examination results, deregistration from examinations

The type of examination, duration and permitted aids are listed in the course catalogue. The results of session examinations are announced as soon as the lecturers forward the results to the study administration. The examination results are listed in myStudies in the performance

overview. Withdrawals for session examinations can be made via myStudies up to one week before the start of the examination session. In case of later cancellations due to illness, accident, etc., the Examination Office must be contacted immediately.

10.4 Financing of studies

Tuition and mandatory semester fees (ASVZ, scholarship fund, VSETH) amount to 730.– per semester at ETH Zurich. In addition, the cost of living is of particular importance. According to the student advisory service, an annual amount of CHF 16,000 to 26,000 can be expected for study and living costs.

For further information please see www.ethz.ch/students/en/studies/financial.

Special merit-based scholarship programmes exist for the Master's programme: Excellence Scholarship & Opportunity Programme (ESOP). Likewise, there is a contribution possibility for study-related travel expenses (e.g. external project or master thesis).

10.5 Military Service

The military will accept requests for deferments of service if the military service falls during the examination or test preparation period. During the semester, requests will only be approved if exam-related material is missed and this would result in an extension of study. The application must be submitted at least 14 weeks prior to the start of the service to the office offering the service (visa from the study secretariat required). The military requires the indication of a time frame for the pre- or post-service. Service may not be postponed for more than one year. Further requests for postponement will be reconsidered.

10.6 Code of Conduct

At ETH, people of different genders, from diverse cultural backgrounds and with a variety of responsibilities conduct research, study and work. This diversity is one of our strengths – and at the same time a challenge. Wherever many people meet, mutual respect is required. The Respect Code of Conduct as a guideline for how we want to treat each other at our university, and it clarifies the values we stand for www.respekt.ethz.ch/en/code-of-conduct.

11 Advice and contact points

General Information on studies at the ETH Zurich:

www.ethz.ch/students/en

Director of Studies

Director of Studies

Special requests in connection with academic studies, permits for deviations from the established regulations and requests for prolongations of Master's thesis

Prof. Dr. Andrea Carminati
Institute of Terrestrial Ecosystems, CHN F 29.1,
Phone 044 633 61 60
E-Mail: andrea.carminati@usys.ethz.ch

Study programme coordinator

Study programme coordinator

Advice and scheduling regarding individual curriculum and admission, Teaching Certificate or Teaching Diploma,

Dr. Susanne Lambrecht, CHN H 42.1, Phone: 044 633 60 82
E-Mail: env_science@ethz.ch

Study administration

Study administration

Administration (processing of e.g. Master's thesis, Master's degree certificates, and performance assessments, Advice on military and civil service deferrals); General advice for Master programme and Master's thesis

Arbenita Sacipi, CHN H 42.2, Phone: 044 632 44 13
E-Mail: env_science@ethz.ch

Coordinator for Professional Internship

Coordinator for professional internships

Advisory service for students regarding the professional internship e.g. evaluation and approval of internships

Dr. Jacqueline Schlosser, CHN H 42.1, Phone: 044 632 25 64
E-Mail: berufspraxis@usys.ethz.ch

Exchange studies

Departmental exchange coordinator

Advice for student exchange (incoming and outgoing)

Dr. Jacqueline Schlosser, CHN H 42.1, Phone: 044 632 25 64
E-Mail: studentexchange.umnw@usys.ethz.ch

Doctorate

Advisor and administration regarding a Doctorate

Madlaina Gartmann, CHN H 47, Phone: 044 632 25 23
Prisca Rohr, CHN H 42.2, Phone: 044 632 52 88
E-Mail: phd@usys.ethz.ch
www.usys.ethz.ch/en/doctorate

Study advisor

Study advisor for Majors and Social and Humanities Sciences

Major specific advice for course selection and curriculum planning

Atmosphere and Climate

Dr. Hanna Joos, CHN M 18, Phone: 044 632 93 65
E-Mail: hanna.joos@env.ethz.ch

Biogeochemistry and Pollutant Dynamics

Dr. Marcel Müller, CHN F 21.2, Phone: 044 632 64 93
E-Mail: marcel.mueller@env.ethz.ch

Ecology and Evolution

Dr. Sebastien Wielgoss, CHN J 11, Phone: 044 632 76 23
E-Mail: sebastien.wielgoss@env.ethz.ch

Environmental Systems and Policy

Dr. Jamie McCaughey, CHN H 73.1, Phone 044 632 67 81
E-Mail: jamie.mccaughey@usys.ethz.ch

Forest and Landscape Management

Prof. Dr. Verena Griess, CHN K 72.2, Phone 044 632 32 10
E-Mail: verena.griess@usys.ethz.ch
Noëmi Brüggemann, CHN K 70.1, Phone 044 632 88 35
E-Mail: noemi.brueggemann@usys.ethz.ch

Study advisor

Human Health, Nutrition and Environment
 Prof. Dr. Roland Regös, CHN H 76.2, Phone: 044 632 69 35
 E-Mail: roland.regoes@env.ethz.ch

Social and Humanities Sciences
 Dr. Eva Lieberherr, SOL G 2, Phone: 044 632 93 36
 E-Mail: eva.lieberherr@usys.ethz.ch

Academic Services

Registrar's Office ETH Zurich
 ETH Zurich, Campus Center, HG F 19, Phone: 044 632 30 00
 E-Mail: registrar@ethz.ch

Examinations Office ETH Zurich
 ETH Zurich, Campus Center, HG F 18, Phone: 044 632 20 68
 E-Mail: exams@ethz.ch

Student Exchange Office ETH Zurich
 ETH Zurich, Campus Center, HG F 23.1, Phone: 044 632 61 61
 E-Mail: exchange@ethz.ch
www.ethz.ch/en/the-eth-zurich/organisation/departments/academic-services/student-exchange-office

Telephone hours for Registrar's and Examinations Office
 Mon – Fri, 09:00 – 11:00³¹

Student Services

Team Counselling & Coaching
 Carola Schulz, ETH Zurich, Campus Center, HG F 67.3
 Phone: 044 632 39 31
 E-Mail: carola.schulz@sts.ethz.ch
www.ethz.ch/students/en/counselling/beratung-coaching

Psychological Counseling Services University/ETH Zurich
 ETH Zurich, Campus Center, Plattenstrasse 28, 8032 Zurich
 Phone: 044 634 22 80,
 E-Mail: pbs@sib.uzh.ch
www.pbs.uzh.ch/en

Student Services

Financial Aid Office ETH Zurich
 ETH Zurich, Campus Center, HG F 22.1, Phone: 044 632 20 40/20 88
 E-Mail: studienfinanzierung@sts.ethz.ch
www.ethz.ch/students/en/studies/financial

Association of students at ETH

VSETH
The VSETH represents all students of ETH. It provides a numerous forms of relief and support regarding the study at ETH Zurich.

E-Mail: vseth@vseth.ethz.ch
www.vseth.ethz.ch/en

Student Association

UFO
UFO stands for the German abbreviation Environment and Forestry Student Association (Umwelt- und Forstfachverein). It is one section of VSETH.

E-Mail: info@ufo.ethz.ch
www.ufo.ethz.ch (in German only)

Sport Association

Academic Sport Association Zurich (ASVZ)
The ASVZ offers all university members an attractive and varied sports programme.

E-Mail: info@asvz.ch
www.asvz.ch/en/634-welcome-asvz

Advisory Service of students for students

Nightline – We listen to you
Nightline Zurich is an independent contact point for students at ETH Zurich, the University of Zurich and other universities in the Zurich area. It offers a confidential and anonymous listening and information service.

Phone 044 633 7777
www.nightline.ch/public/en/home

Information

ETH Zurich
Department of Environmental Systems Science (D-USYS)
Advice for Master Students
CHN H 42.1
Universitaetsstrasse 8
8092 Zurich
Switzerland

env_science@ethz.ch

Phone +41 44 633 60 82 (only on Mo, We & Th)

www.usys.ethz.ch

Consultations Monday, Wednesday and Thursday
by appointment

Publisher: Department of Environmental Systems Science

Editor: Susanne Lambrecht

Layout: Karin Frauenfelder

Cover picture: xush /stock.adobe.com

© ETH Zurich, July 2025