



University of  
Zurich<sup>UZH</sup>

Department of Geography

Study guide to the program of Earth System Science

# Master of Science



Starting in the  
fall semester 2017

## **Impressum**

Studienfachberatung Geographie und Erdsystemwissenschaften

September 2017

**[www.geo.uzh.ch/en/studying](http://www.geo.uzh.ch/en/studying)**

# Table of contents

<b>1. Preface</b>	<b>4</b>
<b>2. MSc studies at the UZH Faculty of Science</b>	<b>6</b>
2.1. Enrolment	6
2.2. Begin of studies and study duration	7
2.3. Structure	8
2.3.1. Academic curricula: BSc, MSc, PhD	8
2.3.2. Major and minor	8
2.4. Modules	9
2.4.1. Types of modules	9
2.4.2. The course catalogues and booking tools	10
2.5. Exams	10
2.5.1. Registration for exams	10
2.5.2. Grading of exams	11
2.5.3. Communication of exam results	12
2.6. The credit-point system	12
2.6.1. Overview of obtained credit points	12
2.7. The MSc diploma	13
2.7.1. Applying for the MSc diploma	13
2.7.2. Diploma with more than 120 ECTS	14
2.8. Combining studies with military service	14
2.9. Plagiarism	15
2.10. Official regulations for MSc degrees at MNF	15

<b>3. The MSc program in Earth System Science</b>	<b>17</b>
3.1. Focus of the MSc curriculum	18
3.2. Specialization within the ESS master	<b>Fehler! Textmarke nicht definiert.</b>
3.3. Personal study plan	20
3.4. Switching to the Earth System Science master	21
3.4.1. Switching to the MSc program in ESS with a UZH Geography BSc degree or a ETH Earth Sciences BSc degree	21
3.4.2. Switching to the MSc program in ESS with a BSc degree in a related field	22
3.4.3. Applying for the ESS master	23
3.4.4. Earth System Science as a minor	23
3.5. Mobility	24
3.5.1. An exchange semester during the MSc program	24
3.5.2. Where can I get information about exchange programs?	24
3.5.3. How does the transfer of credits work?	25
3.6. Studying towards a teaching diploma	26
3.6.1. How can I become secondary school teacher?	26
3.6.2. What are the ESS restrictions for a teaching degree?	26
3.7. Administrative and practical issues	27
3.7.1. Payment of semester fees	27
3.7.2. Regulations for repeat examination in ESS	27
3.7.3. Laptop	27
<b>4. Structure and content of the MSc program</b>	<b>29</b>
4.1. General	29
4.2. Skills	30

4.2.1.	Seminar on current topics in ESS (3 ECTS)	30
4.2.2.	Core-elective skills modules (12 ECTS)	30
4.3.	Knowledge blocks	31
4.3.1.	Lithosphere	32
4.3.2.	Hydrosphere	33
4.3.3.	Biosphere	35
4.3.4.	Anthroposphere	36
4.3.5.	Atmosphere	37
4.4.	Competence	38
4.5.	The MSc thesis and diploma	38
4.5.1.	Master thesis (ESS 511)	38
4.5.2.	The MSc exam module	39
4.5.3.	Writing the thesis at UZH or at ETH	39
4.6.	Internship	40
4.6.1.	Registration for the internship	40
4.7.	Tutorials	41
<b>5.</b>	<b>Working as an Earth-system scientist</b>	<b>42</b>
5.1.	Employment Situation	42
<b>6.</b>	<b>Varia</b>	<b>43</b>
6.1.	Matriculation / Change of Major	43
6.2.	Contact points at the Department of Geography	43
6.3.	Libraries	45
6.4.	Student Society Geography ( <i>"Fachverein"</i> )	45
6.5.	Important University Information Offices	47

# 1. Preface

Welcome! We are pleased that you decided to study in the Master's degree program Earth System Science!

In this study guide ("*Wegleitung*"), the program is illustrated for students starting their studies in the fall semester ("*HS*") 2017. This guide describes the structure of the MSc program in Earth System Science (ESS) and provides answers to study-technical questions. For remaining questions, the Student Advisory Board of the Geographical Department (GIUZ) is your first contact point:

Room	25-K-10
Phone:	044/635 51 18
Mail:	<a href="mailto:beratung.lehre@geo.uzh.ch">beratung.lehre@geo.uzh.ch</a>
Website:	<a href="http://www.geo.uzh.ch/en/studying/student-advisory-board">http://www.geo.uzh.ch/en/studying/ student-advisory-board</a>
Opening hours:	Tuesday and Thursday, from 13:00 to 16:30
Appointments for an advisory meeting can be booked via: <b><a href="http://www.terminland.de/giuz-studienberatung">http://www.terminland.de/giuz-studienberatung</a></b>	

The student counseling informs about actual issues via the GIUZ website, in the magazine Geoscope (magazine of the student association Geography), on the notice board on the K floor as well as on official information events.

Further information, particularly about individual modules, can be found on:

Course catalogues:

**[www.vorlesungen.uzh.ch](http://www.vorlesungen.uzh.ch)**

**[www.vvz.ethz.ch](http://www.vvz.ethz.ch)**

Websites of the corresponding units (e.g. **[www.geo.uzh.ch](http://www.geo.uzh.ch)**)

To facilitate efficient planning of the studies, an information event about the Master's program is held at the end of the Bachelor's program. For new students, an introductory presentation is given on Friday before the start of the fall semester.

More information on the MSc track in Earth System Science can be found on the website of the Department of Geography:

→ [http://www.geo.uzh.ch/en/studying/consecutive\\_master.html](http://www.geo.uzh.ch/en/studying/consecutive_master.html)

We wish you all the best during your Earth System Science studies and are looking forward to seeing you around!

Student Advisory Board Geography and Earth System Science,  
Lena Bühlmann und Etienne Gruebler

Study coordinator Geography and Earth System Science,  
Philippe Meuret

Scientific coordinator Earth System Science,  
Rogier de Jong

Director MSc in Earth System Science,  
Michael W. I. Schmidt

September 2017

## 2. MSc studies at the UZH Faculty of Science

Information in this section applies for MSc studies at the Faculty of Science (*“Mathematisch-Naturwissenschaftliche Fakultät”, MNF*) in general. For specific information about the Master in Earth System Science, we refer to Chapter 3 and onwards.

The degree courses at the Faculty of Science are structured into Bachelor’s and Master’s degrees. The MSc degree is qualifying for jobs outside the university, it opens the door to studying towards a PhD degree and it forms the basis for the teaching diploma for high schools.

### 2.1. Enrolment

A matriculation is necessary for following an MSc study program at the University of Zurich. You need to be matriculated as long as you require services of the University – including visiting courses, counselling and support, utilisation of libraries and the computer infrastructure, taking exams, as well as the validation of the diploma.

#### *Registration*

The process starts with registration at the Student Administration Office of the University. This is also the case after an interruption of your studies. The requirements for an admission to the University of Zurich are defined under

→ [www.uzh.ch/studies/application\\_en.html](http://www.uzh.ch/studies/application_en.html)

Application deadline:

- Fall semester: 30th of April
- Spring semester: 30th of November



### *Semester enrolment*

The matriculation at UZH is renewed every semester using the online semester enrolment tool at

→ [www.students.uzh.ch/registration\\_en.html](http://www.students.uzh.ch/registration_en.html)

Booking modules at ETH once requires a separate enrolment as external student at the ETH via

→ <http://www.mystudies.ethz.ch>

## **2.2. Begin of studies and study duration**

In principle, BSc studies can only be started in the fall semester and MSc studies both in spring and in fall (although fall is recommended). Exceptions to this rule exist. If you begin your MSc studies in the spring semester, expect that you may need to wait a semester for fulfilling entry conditions for some modules (e.g. Module B is only bookable after having taken module A).

The standard study duration for MSc programs is three or four semesters (four in case of ESS), without minors. The maximum period of study is double the standard period of study: six or eight semesters (eight in case of ESS). If the maximum study duration has been exceeded, no degree can be obtained from the Faculty of Science (MNF) anymore. The Faculty Board can permit exceptions based on a written request.

## 2.3. Structure

### 2.3.1. Academic curricula: BSc, MSc, PhD

The degree programs at the MNF are structured into Bachelor's and Master's degrees (Bachelor of Science: BSc; and Master of Science: MSc). To start a Master's curriculum, it is required that you have a Bachelor's degree and MSc curricula build on and assume the BSc knowledge. In the Bachelor's studies, a solid knowledge base and the capability for methodical-scientific thinking are being taught. The consecutive Master's degree provides a deepened scientific education and prepares candidates for autonomous scientific work. The structure of the Master's program in Earth System Science is illustrated on later pages in this study guide.

As a third step, a PhD can be pursued after the Master's degree. The PhD program is based on availability of (funded) positions, an open application procedure and requires an MSc degree with excellent results. The MSc degree also forms the basis for pursuing a teaching education for high school ("*Lehrdiplom*"). The didactical education is held at the Institute of Education (IfE) of the University of Zurich ([www.ife.uzh.ch/igb.html](http://www.ife.uzh.ch/igb.html)). This track requires excellent knowledge of the German language and a tailoring of the MSc curriculum with modules that are compulsory for the teacher diploma.

### 2.3.2. Major and minor

Both the Bachelor's and the Master's programs at the Faculty of Science (MNF) may have major and minor subjects. A minor is a 30-60 ECTS study (at MSc level 30 ECTS only) of another topic than your major and can be taken within any faculty. The curriculum in Earth System Science covers many study fields by design and does therefore not facilitate an additional minor subject within the nominal study duration. An additional minor can be taken but extends the study load with 30-60 ECTS. More info is listed on the Geography website:

→ [www.geo.uzh.ch/en/studium/nebenfaecher-fuer-geographiestudierende](http://www.geo.uzh.ch/en/studium/nebenfaecher-fuer-geographiestudierende)

At the Faculty of Science (MNF) and the ETH Zurich, a new minor can be started at Master's level. At any other faculty, a minor has to be started already at Bachelor's level in order to be continued at Master's level. A list of all major and minor subjects of the University of Zurich can be found at the following website.

→ [www.degrees.uzh.ch](http://www.degrees.uzh.ch)

## 2.4. Modules

Any study program consists of various modules. A module, in turn, consists of one or more courses. Credit points are assigned for completed modules and not for individual courses. Modules usually span one full semester: spring semester ("*Frühlingssemester*", *FS*) or fall semester ("*Herbstsemester*", *HS*). Some modules range over two semesters. The successful completion of a module depends on pre-defined exams or criteria.

### 2.4.1. Types of modules

Following types of modules are offered at MNF:

- **Compulsory module** ("*Pflichtmodul*"): compulsory for all students of a curriculum.
- **Core elective module** ("*Wahlpflichtmodul*"): modules that students must choose from a selection of modules, usually within a given subject area.
- **Elective module** ("*Wahlmodul*"): can be freely selected out of the offered modules within the faculty or department.

The legally binding Study Regulation of the Faculty of Science, as well as the study guides define the compulsory, the core elective and the elective

modules for the respective curricula, as well as the regulations for repetition.

### **2.4.2. The course catalogues and booking tools**

Information about modules can be found in the online course catalogues ("*Vorlesungsverzeichnis*"), see links below. The general structure of a curriculum is defined in the study guide but the students compose individual schedules themselves, especially at MSc level.

→ [www.vorlesungen.uzh.ch](http://www.vorlesungen.uzh.ch)

→ [www.vorlesungen.ethz.ch](http://www.vorlesungen.ethz.ch)

Modules can be booked using the booking tools listed below (UZH and ETH respectively). It is recommended to book modules at your earliest convenience. The booking tools open about 6 weeks before the start of the semester. Consider the registration deadlines of the respective faculties. At MNF, registration for modules is usually possible until the third week after the start of lectures, but there are exceptions to this rule and you may not be able to register anymore when the module started. The module coordinator is listed in the course catalogue and can answer your module-specific questions.

→ [http://www.students.uzh.ch/booking\\_en.html](http://www.students.uzh.ch/booking_en.html)

→ <http://www.mystudies.ethz.ch>

## **2.5. Exams**

### **2.5.1. Registration for exams**

With the enrolment for a module at UZH, you are automatically registered for the respective exam. In most cases, you can unsubscribe from the module, including the exam, without specifying any reason

within the first 10 weeks of the lecture period but check the course catalogue for specific modules. After this date, not attending the exam(s) without valid reason results in a fail mark. For modules at the ETH, separate registration for the exam is required. Unsubscribing is possible until shortly before the exam.

You will not get an invitation for the exams. You can look up the date, time and location of the exam in the course catalogue. For repeat examinations, you will receive an invitation to register. After having registered, you cannot opt-out anymore. Instead of taking a repeat exam, you can chose to repeat the entire module.

### **2.5.2. Grading of exams**

The module coordinator is responsible for the assessment. The form of the assessment is communicated in the course catalogue. It can include the handing-in of exercises or assignments. These can be graded or marked with a pass/fail. If you happen to miss an assessment because of illness or another valid (and verifiable) reason, you should immediately contact the module coordinator and the Student Affairs Office of the Faculty (<http://www.mnf.uzh.ch/en/studies/office-of-student-affairs.html>). If and how missed assessment can be compensated is decided by the module coordinator.

Not attending a module exam (i.e., a no-show) results in a fail mark. The faculty can approve exceptions in specific cases, for example based on a medical report or military duties. If you feel you qualify for such an exception, please hand in a written application with required documents to the Student Affairs Office of the Faculty latest five days after the date of the exam. If the Faculty Board approves the request, it will define when the missed module exam has to be repeated. Usually, this will be at the repeat date of the corresponding module exam.

### 2.5.3. Communication of exam results

At UZH, you can see the results in your personal account ([www.students.uzh.ch/record.html](http://www.students.uzh.ch/record.html)) after about 4 weeks. Afterwards, the Faculty Board validates the results before they are final. You have the right to see the corrected exam and to consult the teacher(s) who graded the exam. The date and time will be communicated by the teacher or by the secretary.

At ETH, the results are first validated and then disseminated via MyStudies ([www.mystudies.ethz.ch](http://www.mystudies.ethz.ch)). At a later stage, the results are automatically communicated to UZH and listed for your degree.

## 2.6. The credit-point system

All study programs use the European Credit Transfer and Accumulation System (ECTS), [http://ec.europa.eu/education/ects/ects\\_en.htm](http://ec.europa.eu/education/ects/ects_en.htm). The following guidelines apply:

- Credit points cannot be assigned without assessment
- A credit point corresponds to a work time of 25-30 hours. This includes attendance of lectures and time for individual work (self-study, exercises, revision, etc.)
- One semester in a full-time study covers 30 ECTS, including the semester break. This means that the work time during the lecture weeks may exceed 25-30 hours per credit point

An ECTS point is also referred to as credit point (CP or “*Kreditpunkt*”, KP)

### 2.6.1. Overview of obtained credit points

After every semester, you get an overview by mail listing the successfully achieved credit points and the grades. You can also find your credit point

record online at [www.students.uzh.ch/record.html](http://www.students.uzh.ch/record.html). You have to inform the Student Affairs Office of the Faculty about any discrepancies within four weeks after the module ended.

## **2.7. The MSc diploma**

The diploma certificate is written in German and in English. It lists the weighted average of the grades, which is calculated following the study regulations. If applicable, separate grades are listed for the major and for the minor subject. A list with all completed modules with credit points is attached, as well as a “Diploma Supplement” which summarizes general information about the educational background in Switzerland and particularly at the University of Zurich and about the specific MSc curriculum.

### **2.7.1. Applying for the MSc diploma**

After having fulfilled the degree criteria, you need to submit an application form to the office of the student advisory board. If all conditions are fulfilled, the Faculty of Science will grant the respective academic title at the next meeting of the Academic Committee.

- [www.geo.uzh.ch/en/studying/consecutive-master/degree/](http://www.geo.uzh.ch/en/studying/consecutive-master/degree/)
- [www.mnf.uzh.ch/en/services/events.html](http://www.mnf.uzh.ch/en/services/events.html)

The form needs to be submitted to the GIUZ Student Counsel at least four weeks before the meeting of the Academic Committee. Otherwise, the diploma is handed out after the next meeting. The dates of the meetings of the Academic Committee are published on

- [www.mnf.uzh.ch/en/services/events.html](http://www.mnf.uzh.ch/en/services/events.html).

### **2.7.2. Diploma with more than 120 ECTS**

Obtained credit points are listed in the Master's Diploma. These can exceed the minimum number of 120 ECTS but have a maximum of 130 ECTS. At wish, you can select some elective or core elective modules for exclusion from the calculation of the average grade. These must be additional modules to the 120 ECTS and have a maximum of 9 ECTS. Only full modules qualify (i.e., not individual courses). Compulsory modules and modules without a mark cannot be excluded from the calculation. The selected modules will still be listed in the summary of credits, but will not be used for calculating the average grade.

### **2.8. Combining studies with military service**

The dates of the module exams or other compulsory parts of your studies may conflict with military activities. It is therefore recommended to complete these services before the start of studies. If this is not feasible for you, please contact the Student Counseling to discuss the planning of your studies.

Military service is considered a valid reason for absence but it can never lead to easing of assessment conditions. For instance, if a module has a maximum number of absences, then you cannot pass the module with more absences even if these are due to military service.

Further information and various request forms are provided on **[www.vtg.admin.ch](http://www.vtg.admin.ch)**. Requests have to be signed by the Student Affairs Office at the Faculty of Science. The information sheet about military service can be downloaded from

→ **<http://www.mnf.uzh.ch/en/studies/regulations-information-sheets/bsc-and-msc.html>**



## 2.9. Plagiarism

The deliberate or unintended act of copying text, images, ideas or approaches from other people without indicating the source is theft. In academia, this is unethical, unacceptable and subject to disciplinary consequences. This also holds for copying exercises or other assignments. The minimal consequence is failure for the respective assignment or exam but consequences can extent to failure for the respective module up to suspension from the University of Zurich. For more information, please see

→ [http://www.lehre.uzh.ch/plagiate\\_en.html](http://www.lehre.uzh.ch/plagiate_en.html).

## 2.10. Official regulations for MSc degrees at MNF

The following regulations are (legally) binding:

1. The **Framework Academic Regulations** ("*Rahmenverordnung*") contains the general regulations for all BSc and MSc studies at the Faculty of Science at the University of Zurich.
2. The **Study Regulations** ("*Studienordnung*") contain information about the individual study degrees at the MNF. This concerns for example modules, exams and credit points.
3. This **guide** ("*Wegleitung*") provides practical and more information about the study program in Earth System Science at the Department of Geography.

Both the Framework Academic Regulations and the Study Regulations are published on the MNF website:

→ <http://www.mnf.uzh.ch/en/studies/regulations-information-sheets/bsc-and-msc.html>

The study guide is updated every fall semester and can be downloaded from the ESS website

→ [\*\*http://www.ess.uzh.ch\*\*](http://www.ess.uzh.ch)

### **3. The MSc program in Earth System Science**

Earth system scientists make a contribution to comprehending interactions and occurrences in various Earth spheres. They can observe and describe, analyze and predict such interactions due to their ability to think in an interconnected way. For example, they recognize correlations between forest fires and climate extremes or between rising sea levels and glacier meltdowns. Their appreciation for past, current, and future processes plays a decisive role in this context.

In their Bachelor years, students learn about the fundamentals on which all areas of Earth System Science are based: mathematics, chemistry, physics and biology. Various application fields within Earth (System) Science are explored and a focus area is selected for the final semesters and the Bachelor thesis. This curriculum consists largely of compulsory modules.

In the Master phase, students have a lot of flexibility to design their own study. This freedom requires responsibility, motivation and independence. These assets are valuable, even critical, in your future career and make that Earth System Scientists have a unique profile of interdisciplinary and independent thinking and working. Teachers help and support you in designing and successfully completing your personal MSc program.

This section provides an overview of the ESS master, including the general structure, admission issues, mobility and options to pursue a teaching degree. The full structure of the program is outlined in Section 4.

### 3.1. General structure

The figure below shows the general structure of the master. Each of the elements is discussed in more detail in Chapter 4.

#### Skills (15 CP)

Seminar on current topics in Earth System Science  
A compulsory-choice Remote Sensing module  
A compulsory-choice GIS, programming or statistics module

#### Free choice (10 CP)

Extra modules,  
research project

#### Specialization block (12 CP)

Lithosphere

Hydrosphere

Biosphere

Anthroposphere

#### Compulsory-choice (3 blocks of 12 CP)

Earth-surface  
processes

Catchment  
hydrology

Paleontology and  
chronology

Human-environment  
interaction

Analytical methods  
lithosphere

Groundwater  
hydrology

Soil - Vegetation  
interactions

Teaching degree  
Geography

Geochemistry

Cryosphere I:  
processes

Terrestrial  
biogeosciences

Cryosphere II:  
modeling and physics

Ecology and  
biodiversity

Atmosphere

#### Competence (45 CP)

Master thesis  
(30 ECTS)

Internship  
(15 ECTS)

Extended Master thesis  
(45 ECTS)

### 3.2. Focus of the MSc curriculum

The Master curriculum in ESS is designed in a way to be flexible for students. The focus (*“Vertiefung”*) is defined based on your choices in the core elective part (*“Wahlpflichtbereich”*). It is, however, not a specialization (*“Schwerpunkt”*) and, as such, not mentioned on the diploma. Independent of the blocks you chose, the diploma will list “Master in Earth System Science” as title. The module list will obviously demonstrate the focus you chose. The focus spheres and their core elective blocks are:

#### Lithosphere

- LIT 1 Focus block
- LIT 2 Earth-surface processes
- LIT 3 Earth-science methods
- LIT 4 Geochemistry

#### Hydrosphere

- HYD 1 Focus block
- HYD 2 Catchment hydrology
- HYD 3 Groundwater hydrology
- HYD 4 Cryosphere I: processes
- HYD 5 Cryosphere II: modeling and physics

#### Biosphere

- BIO 1 Focus block
- BIO 2 Paleontology and chronology
- BIO 3 Soil-vegetation interactions
- BIO 4 Terrestrial biogeosciences
- BIO 5 Ecology and biodiversity

#### Anthroposphere

- ANT 1 Focus block

- ANT 2 Human-environment interaction
- TDG Teacher diploma Geography (in German)

Four blocks of (ca.) 12 ECTS have to be selected. One of the focus blocks is compulsory as well as at least one other block in the same sphere. The remaining two blocks should cover at least one additional Earth sphere. The atmosphere can be included in the core elective part of the program but cannot be the focus:

- ATM 1 Atmosphere

Modifications in the blocks, e.g. substitution of modules, may be possible or in some cases even necessary and can be discussed with the scientific coordinator.

The ESS master is very interdisciplinary by design, because it requires and enables candidates to study more than one Earth sphere. To facilitate that requirement, the curriculum does not support an additional minor within the nominal study load of 120 ECTS. An additional minor can be taken but extends this study load with 30 ECTS.

### 3.3. Personal study plan

The ESS master is very flexible, in a sense that you can, with few constraints, determine the study focus yourself: are your ambitions in the interface between the solid Earth and the hydrosphere? Or are you interested in energy and matter cycling between the atmosphere, ocean and biosphere? You can tailor your master to match your ambitions. That freedom also comes with responsibility. When you have been admitted to the curriculum, among the first tasks is to prepare a **personal study plan** and to briefly discuss it with the scientific coordinator of the curriculum. Please start subscribing for the modules that you plan to take in your first semester as soon as possible, even before approval. You can always

unsubscribe or change. Contact the scientific coordinator for a 15-min discussion of your study plan in your first semester and again if you plan substantial changes. The scientific coordinator can also advise you in case you wish to make changes within the core elective blocks or to discuss your plan for the MSc thesis or internship.

Depending on your focus in the core-elective part, up to 40% of the credit points are ETH modules. Please note that, in any case, UZH modules must cover at least 60% of all credit points (i.e., at least 72 ECTS).

### **3.4. Switching to the Earth System Science master**

The UZH BSc in Earth System Science grants unrestricted access to the ESS MSc curriculum. Please register for the master in time. Other scenarios are outlined below.

#### **3.4.1. Switching to the MSc program in ESS with a UZH Geography BSc degree or a ETH Earth Sciences BSc degree**

You can start in the ESS program with few additional ECTS from the ESS bachelor program. All natural sciences (physics, math, chemistry, biology) as well as skills and application domains in ESS (remote sensing, GIS, hydrology, geology) must be covered. The Geography and Earth Sciences programs cover most of these and typically you will have to catch up only on a few. If you consider switching to Earth System Science while studying Geography or Earth Sciences, you may take these courses already during your bachelor. The information given here is an indication; please contact the Student Advisory Board with your specific case. The final list of required modules ("*Auflagen*") depends on the choices during your bachelor and is provided during the application procedure.

The following modules (or equivalent) are required for Geography or Earth Sciences students switching to the ESS master. Note that this list

may be subject to change and that the final restrictions (“Auflagen”) are tailored to the applicant’s background.

*Table 3.4.2 Indication of restrictions for start of the ESS master with a relevant BSc degree. Equivalent modules may be eligible. The final restrictions are personal and based on the applicant’s background. No rights can be derived from this guide.*

<b>Natural Sciences</b>		ECTS
PHY118 (HS)	Physik I für Nebenfachstudierende	5
CHE170 (HS)	Grundlagen der Chemie für die Biologie	4
BIO141 (FS)	Oekologie und Biodiversität	4
MAT141 (HS)	Lineare Algebra für die Naturwissenschaften	5
<b>Application domains and skills</b>		
ESS111 (HS)	Dynamische Erde I (part of ESS110)	6
GEO233 (HS)	Fernerkundung und GIS III	5
GEO121 (FS)	Physische Geographie II: Atmo, Klima, Hydrologie	5

### 3.4.2. Switching to the MSc program in ESS with a BSc degree in a related field

With any ESS-related Bachelor degree from a recognized academic institution, you can apply for the ESS master. Admission to the master depends on your academic record and may require taking BSc modules in natural science (physics, math, chemistry, biology) or any of the ESS skills and application domains (remote sensing, GIS, hydrology, geology). These credit points are additional to the 120 ECTS of the master. The list of BSc modules to be taken is tailored to your situation and provided during the application procedure. Please note that most BSc courses at the University of Zurich and at ETH are only offered in German. Non-German speakers may have to finish equivalent modules at their home institute or at another recognized university.



### 3.4.3. Applying for the ESS master

You can apply by submitting a motivation letter, your CV and the full overview of your BSc degree in the online admission procedure. For details, see [http://www.uzh.ch/studies/application/master\\_en.html](http://www.uzh.ch/studies/application/master_en.html). The procedure may involve a short interview or contact with academic references.

It is recommended to apply for a start in September (fall semester) but it is possible to start in spring. In the case of admission with restrictions ("*Auflagen*"), you can start with those modules anytime.

The MSc program is almost exclusively taught in English. Few MSc modules are only offered in German but none of these are compulsory. In case of admission with restrictions, please note that most BSc modules are offered in German. You may submit a request to take alternative modules at a recognized institute that offers equivalent modules in English.

### 3.4.4. Earth System Science as a minor

It is possible to take a minor in Earth System Science. The 30-ECTS option (can be taken during BSc or during MSc) focuses on the lithosphere while the 60-ECTS option (only during BSc) covers more aspects of the Earth system. The table below lists the compulsory modules (CM) for both the 30-ECTS and the 60-ECTS options.

Code and title	ECTS		30CP	60CP
ESS111 Dynamische Erde I (part of ESS110)	6	HS	CM	CM
MAT183 Stochastik für die Naturwissenschaften*	6	FS	*	CM**
ESS121 Dynamische Erde II (part of ESS110)	5	FS	CM	CM
ESS122 Geologie der Schweiz	2	FS	CM	CM
ESS123 Exkursionen zu Dynamische Erde	1	FS	CM	CM

ESS129 Feldkurs I	2	FS	CM	CM
GEO121 Physische Geographie II	5	FS		CM

\* This knowledge is assumed upon start of the minor

\*\* Compulsory for students of other faculties that do not offer a similar module

Please consult the BSc study guide ("*Wegleitung*") for more information.

### 3.5. Mobility

#### 3.5.1. An exchange semester during the MSc program

Usually, it is possible to take one semester at another university. This needs to be discussed with and approved by the MSc coordinator. The University of Zurich must recognize the host university and the modules must fit within the ESS scope. The obtained foreign credit points can count towards the free-choice part of the master and, under certain conditions, towards the core elective knowledge blocks (see section on the MSc structure). In the end, 60% of the 120 ECTS need to be covered by UZH modules. Note that ETH modules cannot count towards this 60%. For this reason, the ESS curriculum only allows for one exchange semester. The Faculty Board can make exceptions, based on a written request.

#### 3.5.2. Where can I get information about exchange programs?

Important information about studying abroad can be found under [www.int.uzh.ch/out.html](http://www.int.uzh.ch/out.html), for studies at another Swiss university at [www.uzh.ch/studies/mobility/ch-unimobil.html](http://www.uzh.ch/studies/mobility/ch-unimobil.html)

The current regulations and partner universities in Europe are published on the website: <http://www.geo.uzh.ch/en/studying/exchange-programs> (currently only in German). You can contact the Student Counseling for additional information.

Contact person for ERASMUS and CH-Unimobil at the Geographical Department is Yvonne Scheidegger (office Y25-K-08).

### **3.5.3. How does the transfer of credits work?**

Credits from other universities can under certain conditions be transferred to the University of Zurich. The following guidelines apply: <http://www.geo.uzh.ch/en/studying/exchange-programs>

- A transcript of records with grades or a confirmation that the module was passed has to be handed in. The number of transferred ECTS depends on the study program of the host university.
- Elective modules can only be credited if no redundancy with other completed modules exists.
- Passed core elective modules (max. 18 ECTS) can be credited if the content corresponds to the content of the consolidation modules of the University of Zurich and no redundancy with already absolved modules exists.
- All compulsory modules as well as the master thesis have to be done at the University of Zurich.
- The study program should always be discussed prior to the exchange semester with the Departmental Teaching Administrator, Yvonne Scheidegger (office Y25-K-08). She decides, in consultation with the module coordinator(s), if the credits can be transferred.
- A Learning Agreement has to be filled out by the candidate and signed by the Department of Geography (Yvonne Scheidegger) and the International Relations Office before the departure.

### **3.6. Studying towards a teaching diploma**

#### **3.6.1. How can I become secondary school teacher?**

The additional Teaching Diploma for Upper Secondary Education (*“Lehrdiplom für Maturitätsschulen”*) has to be acquired in order to become a secondary school teacher. For information, see

→ [www.ife.uzh.ch/igb.html](http://www.ife.uzh.ch/igb.html)

→ [www.geo.uzh.ch/en/studying/diploma-for-higher-education](http://www.geo.uzh.ch/en/studying/diploma-for-higher-education)

The curriculum for secondary school teacher consists of 60 additional ECTS, for which courses can be taken already during the Master’s studies. Note that fluency in German is required for this track.

In case you wish to pursue the teaching diploma, it is recommended to contact the Student Counseling at an early stage. In this way, you can start taking the required modules as soon as possible and you avoid a study delay.

#### **3.6.2. What are the ESS restrictions for a teaching degree?**

As an Earth System Science master candidate, you can study towards the teaching diploma for Geography under strict conditions of modules that need to be taken (and are not all part of the regular ESS curriculum). As an indication, all modules of the minor in Geography (60 ECTS) are to be completed and the Anthroposphere must be among your focus spheres. Please contact the Student Advisory Board and see the study guide Geography for more detailed information.

### **3.7. Administrative and practical issues**

#### **3.7.1. Payment of semester fees**

Semester fees have to be paid up to and including the semester, in which the Master's exam is taken and the validation of the graduation is done, even if no other modules are visited that semester.

#### **3.7.2. Regulations for repeat examination in ESS**

The ESS regulations follow those of the institute that offers the module, i.e. the UZH Dept. of Geography or the ETH Dept. of Earth Science. Usually, exams can be repeated once for every module. After two failed attempts, the concerning module cannot be taken anymore. In the unfortunate case of two failed attempts for a compulsory module, all curricula, which require that specific module, cannot be continued. If a core elective module failed at the repeat examination, it can be replaced once by another core elective module, also with the possibility to repeat the exam once. Elective modules can be replaced without constraints. An invitation to register for the repeat examination is sent with the exam result. The application for the repeat exam is binding and it is not possible to unsubscribe. You can also opt to repeat the entire module.

The described regulations are also applicable for the MSc exam. A one-time repetition of the MSc thesis, with a new topic, is possible.

#### **3.7.3. Laptop**

For studies in Earth System Science, a laptop is not required. Public workstations are at your disposal and provide the specialized software needed for many exercises. If you wish to purchase a laptop, for instance because you will work both at UZH and at ETH, you can freely choose one. The university systems are compatible with different operating

systems, including Windows and iOS. Laptops are sold at reduced prices during the Neptun weeks at the start of each semester

→ [\*\*http://www.projektneptun.ch/\*\*](http://www.projektneptun.ch/)

## 4. Structure and content of the MSc program

### 4.1. General

The curriculum covers 120 credit points and contains compulsory, core elective and elective modules. The general structure follows three academic qualities: skills (15 ECTS), knowledge (48 ECTS) and competence (57 ECTS). The latter includes the MSc thesis and internship. See also the schematic figure in Section 3.1.

#### Skills (15 ECTS)

Seminar on current topics in Earth System Science  
 A compulsory-choice Remote Sensing module  
 A compulsory-choice GIS, programming or applied-statistics module

#### Knowledge (4 blocks of 12 ECTS)

<i>Lithosphere</i>	<i>Hydrosphere</i>	<i>Biosphere</i>	<i>Anthroposphere</i>	<i>Atmosphere</i>
LIT 1	HYD 1	BIO 1	ANT 1	ATM 1
LIT 2	HYD 2	BIO 2	ANT 2	
LIT 3	HYD 3	BIO 3	TDG	
	HYD 4	BIO 4		
	HYD 5	BIO 5		

#### Competence (57 ECTS)

MSc thesis  
 Internship  
 Free choice

## 4.2. Skills

### 4.2.1. Seminar on current topics in ESS (3 ECTS)

The curriculum starts with a compulsory seminar on current topics in Earth System Science (ESS401). You learn to approach scientific issues in ESS as a collection of processes within and interactions between Earth spheres. Students and teachers present and debate these problems from various standpoints, ranging from biophysical to social-economical. Various ways of presenting and discussing scientific issues are used during the assignments.

### 4.2.2. Core-elective skills modules (12 ECTS)

Code	ECTS		Title
GEO441*	6	FS	Colloquium & Seminar in Remote Sensing
GEO442*	6	HS	Spectroscopy of the Earth System
GEO443*	6	HS	SAR and LIDAR
GEO803	2	ir	Solving Geospatial Problems using Matlab
GEO812	1	ir	R for spatial analysis
GEO717	1	ir	Google Earth Engine
GEO871	3	HS	Retrieving Geographic Information
GEO872	3	HS	Advanced Spatial Analysis
GEO873	3	HS	Cognitive Issues in GIScience
GEO874	3	HS	Introduction to Databases
GEO875	3	HS	Spatial Databases
GEO877	3	FS	Spatial Algorithms
GEO878	3	FS	Geovisualization
STA 260	0	HS	Practical Introduction to R
STA 291	2	ir	Statistics and Probability
STA120	5	FS	Einführung in die Statistik (in German)

\* one of three; FS = Spring Semester, HS = Fall Semester, ir = irregularly offered



Twelve credit points need to be covered with skills modules, of which one remote sensing module at MSc level (GEO441, 442 or 443) and one module related to GIS, (numerical) modeling, information science or applied statistics. The table above lists common modules. Other modules from the Geography, Mathematics, Biostatistics and Computational Science curricula may be eligible. More than 12 ECTS can be selected, in which case the surplus can count towards the free choice.

### 4.3. Knowledge blocks

The four knowledge blocks determine the focus of your MSc curriculum. The blocks LIT1, HYD1, BIO1 and ANT1 are focus blocks, of which one need to be selected. Within the same sphere, at least one other block needs to be selected. The remaining two blocks should cover at least one additional Earth sphere.

Each block should cover (ca.) 12 ECTS and consists of (core) elective modules listed in the following sections (for an overview, a full table is available on the ESS website). This means that you can shape this part of the curriculum not only by selecting your preferred blocks but also by selecting the preferred modules within the block. As such, you have a lot of freedom to tailor the curriculum to your wishes. Due to the great number of modules across Departments, the list may contain inaccuracies. *For the modules you choose, please check the listed information in the course catalog!*

In consultation with the scientific coordinator, a small surplus in a block may be transferred to another block, leading to blocks of 10 up to 14 ECTS. Any surplus may also count towards free choice. Unlisted modules may in certain cases be eligible for the compulsory-choice blocks. All modules must be offered by UZH or ETH and the scientific coordinator

must approve your suggestion. The latter also holds for “mobility modules” in case you study one semester abroad.

#### 4.3.1. Lithosphere

<b>LIT I</b>			<b>Lithosphere focus block</b>
651-4041	3	HS	Sedimentology I: physical processes and sedimentary systems
651-4049	3	HS	Conceptual and quantitative methods in geochemistry
651-4032	3	FS	Volcanology (+ 2 ECTS field course, not compulsory)
GEO463	6	HS	Soil science I: current challenges in soil science
GEO856	3	FS	The high-mountain cryosphere: processes and risks

<b>LIT2</b>			<b>Earth Surface Processes</b>
651-4041	3	HS	Sedimentology I: physical processes and sedimentary systems
651-4043	3	HS	Sedimentology II: biochemical processes in marine systems*
651-4231	3	HS	Basin analysis
651-4070	5	FS,ir	Land slide analysis
651-4134	6	FS,ir	Tectonic geomorphology
GEO856	3	FS	The high mountain cryosphere: processes and risks
651-4902	3	FS	Quaternary geology and geomorphology of the Alps
* requires 651-4041			

<b>LIT3</b>			<b>Analytical methods for the lithosphere</b>
651-4051	2	HS	Reflected Light Microscopy and Ore Deposits Practical*
651-4113	2	HS	Sedimentary Petrography and Microscopy
651-4055	3	HS	Analytical Methods in Petrology & Geology
651-4117	3	HS	Sediment Analysis
GEO814	3	FS	Modelling of the cryosphere: spatial and thermal processes
GEO442	6	HS	Spectroscopy of the Earth system
GEO820	2	FS	Stable isotopes in ecology and soil science
* requires 651-4037; both modules can be taken in LIT3 or in LIT4			

<b>LIT4</b>			<b>Geochemistry</b>
701-1251	3	HS	Land-climate interactions
651-4037	3	HS	Ore deposits I
651-4004	3	FS	Organic geochemistry and the global carbon cycle
651-4044-00	3	FS	Geomicrobiology and biogeochemistry*
701-1317	3	FS	Global Biogeochemical Cycles and Climate
701-1313	3	HS	Isotopic and organic tracers in biogeochemistry
651-4235	3	ir	Marine Geology and Geochemistry
GEO820	2	FS	Stable isotopes in ecology and soil science
* can be extended with lab practical and/or field course, see block BIO4			

#### 4.3.2. Hydrosphere

<b>HYD I</b>			<b>Hydrosphere focus block</b>
GEO471	6	HS	Hydrological field measurements and calculations
GEO731#	2	HS	Gletscher und Permafrost (German) *
GEO856	3	FS	The high-mountain cryosphere: processes and risks
102-0488	3	FS	Water resources management
701-1348	3	FS	Sustainability in Water Supply, Resources and Aquatic Ecosystems
651-4080	2	FS	Fluvial sedimentology
* this course is suggested as preparation for the cryosphere blocks			

<b>HYD2</b>			<b>Catchment hydrology</b>
GEO471	6	FS	Hydrological field measurements and calculations
GEO475	6	HS	Hydrological Modeling and Programming
102-1251	3	HS	Hydrology II (rainfall-runoff processes, assumes Hydrology I)
102-0287	3	HS	Fluvial systems (assumes Hydrology II)
651-4080	2	FS	Fluvial sedimentology
GEO862	4	FS	Cold-region hydrology

<b>HYD3</b>			<b>Groundwater hydrology</b>
651-4023	4	HS	Groundwater
102-0448	6	FS	Groundwater II
651-4061	3	FS	Hydrological field course*
701-1250	3	FS	Hydrological processes and modelling
701-0423	3	HS	Chemie aquatischer Systeme (German)
* requires 651-4023			

<b>HYD4</b>			<b>Cryosphere I: processes</b>
GEO856	3	FS	The high-mountain cryosphere: processes and risks
GEO857	3	FS	Snow and avalanches: processes and risk management
GEO805	6	HS,b	Naturgefahren und Risikoanalyse im Gebirge (German)
101-0289	3	HS	Applied glaciology (ask teacher about language)
651-1581	3	HS	Seminar in glaciology
GEO862	4	FS	Cold-region hydrology
GEO411	6	FS,ir	Field studies on high mountain processes

<b>HYD5</b>			<b>Cryosphere II: modelling and physics</b>
GEO413	6	HS,2	Quantification and modelling of the cryosphere
GEO814	3	FS	Modelling of the Cryosphere: spatial and thermal processes
GEO815	3	HS	Modelling of the Cryosphere: dynamic processes
651-4101	3	HS	Physics of glaciers
102-0818	3	FS	Hydrology of glaciers

### 4.3.3. Biosphere

<b>BIO I</b>			<b>Biosphere focus block</b>
651-4004	3	FS	Organic geochemistry and the global carbon cycle
GEO463	6	HS	Soil science I: current challenges in soil science
UWW221	2	HS,b	Biodiversity theory I
UWW251	2	HS	Global change and ecosystems ecology
BIO280	3	HS	Basics of Palaeobotany

<b>BIO2</b>			<b>Paleontology and chronology</b>
GEO818	6	HS,2	Ecophysiological tree-ring research
651-4229	3	HS	Advanced geochronology
651-4054	3	FS	Micropalaeontology
BIO280	3	HS	Basics of Palaeobotany
651-4057	3	HS	Climate history and paleoclimatology
651-4056	3	FS	Limnogeology

<b>BIO3</b>			<b>Soil - Vegetation interactions</b>
GEO463	6	HS	Soil science I: current challenges in soil science
GEO 819	4	FS	The biogeochemistry of plant-soil systems in a changing world*
GEO 820	2	FS	Stable isotopes in ecology and soil science*
GEO 412	6	FS,b	Soil Science III: practical project *
701-1337	3	HS	Forest soils – functions and responses to environmental changes
GEO416	6	HS,2	Umwelt - Boden - Vegetation (German)
* requires GEO463			

<b>BIO4</b>			<b>Terrestrial biogeosciences</b>
651-4004	3	FS	Organic geochemistry and the global carbon cycle
651-4044-00	3	FS	Geomicrobiology and biogeochemistry
651-4044-01	2	FS	Geomicrobiology and biogeochemistry lab practical*
651-4044-02	2	FS	Geomicrobiology and biogeochemistry field course*
GEO 819	4	FS	The biogeochemistry of plant-soil systems in a changing world**
GEO 820	2	FS	Stable isotopes in ecology and soil science**
701-1251	3	HS	Land-climate interactions
* require 651-4044-00 and have limited place, ** requires GEO463			

<b>BIO5</b>			<b>Ecology and biodiversity</b>
751-5118	2	FS	Global Change Biology
UWW221	3	HS	Species interactions and biodiversity
UWW222	2	ir,b	Biodiversity field course in summer*
UWW251	2	HS	Global change and ecosystem ecology
UWW271	2	HS	Contemporary analysis for ecology
UWW273	3	HS	Introduction to theoretical ecology
* requires UWW221			

#### 4.3.4. Anthroposphere

<b>ANT I</b>			<b>Anthroposphere focus block</b>
GEO425	6	HS	Political Ecology
UWW241	2	HS,b	Economics of biological wealth and ecosystem services
UWW251	2	HS	Global change and ecosystem ecology
701-1551	3	HS	Sustainability Assessment
701-1553	3	HS	Introduction to Cultural Ecology

<b>ANT2</b>			<b>Human - Environment interactions</b>
701-0015	2	HS,ir	Seminar on Transdisciplinary Research for Sustainable Development
701-1317	3	FS	Global Biogeochemical Cycles and Climate
701-1512	3	FS	HES Systems 1 - Individual and Organizational Interactions with Environmental Systems
701-1551	3	HS	Sustainability Assessment
701-1553	3	HS	Introduction to Cultural Ecology
701-1651	3	HS	Environmental Governance
851-0594	4	HS	International environmental politics

<b>TDG</b>			<b>Teaching degree Geography*</b>
GEO79x	1	HS,FS	Regionale Geography (german)
GEO999	2	ir	Exkursionen für Nebenfachstudierende (german)
GEO992	3	FS	Fachwissenschaft und ausserschulische Lernorte (german)
GEO410	4	HS	Thinking geographically
GEO...#	5		One specialization module (5. or 6. Semester) human geography (german)
* Please contact the study council for this track; fluency in german is required; all modules (15 CP) in this block are compulsory; additional "Auflagen" from the geography BSc may have to be fulfilled			

#### 4.3.5. Atmosphere

<b>ATM1</b>			<b>Atmosphere</b>
701-0471#	3	HS	Atmosphärenchemie (German)
701-0475#	3	HS	Atmosphärenphysik (German)
701-1252	3	FS	Climate Change Uncertainty and Risk
701-0412	3	FS	Climate systems
701-1251	3	HS	Land-Climate Interactions
701-1228	3	FS	Cloud Dynamics
701-1232	3	FS	Radiation and climate change
651-4095-01	1	HS	Colloquium Atmosphere and Climate 1
651-4095-02	1	FS	Colloquium Atmosphere and Climate 2

## **4.4. Competence**

The competence part requires you to synthesize the knowledge and skills you learned and apply them to current scientific issues. This is mainly achieved by the master thesis (32 ECTS) and the internship (15 ECTS). The remaining 10 credit points are free choice. The MSc thesis and Internship are discussed in the following sections.

Within the 10 ECTS free choice, you can visit any module from the knowledge blocks or any other module that is a reasonable addition to your study program. Non-scientific modules also qualify, e.g. courses of the Language Centre of the university and the ETH (max. 4 ECTS). Sports courses do not qualify.

## **4.5. The MSc thesis and diploma**

### **4.5.1. Master thesis (ESS 511)**

The master thesis is your personal proof of your ability to work scientifically. You design the thesis yourself with a supervisor of your choice. During the MSc program, you can approach any ESS teacher (see below for requirements) and ask for thesis opportunities. Preferably, you write your thesis within your focus sphere and you consider interactions with other spheres in your research question.

The thesis covers 30 ECTS (six months full time) and has to be completed within 12 months. The master exam (next section) takes place shortly after handing in. The thesis and exam are graded separately and passed if the grade is 4 or higher.



More information can be found on the information leaflet about the master thesis and the master exam on the webpage

→<http://www.geo.uzh.ch/en/studying/consecutive-master/master-thesis/>

#### **4.5.2. The MSc exam module**

The master's exam (ESS512) is a compulsory part of the MSc thesis (ESS511). The exam usually consists of an oral presentation of your thesis work and an oral examination by a committee existing of supervisors and an external expert. It tests the familiarity with your thesis subject and the capability to synthesize and apply the knowledge. For the master's exam the regulations listed in the information sheet ("*Merkblatt Masterarbeit*") are to be followed. Unsubscribing is possible until two weeks before the exam date but only in consultation with your thesis supervisor.

#### **4.5.3. Writing the thesis at UZH or at ETH**

ESS is an UZH GIUZ program and the thesis can be written at any of the groups within the Department of Geography that is involved in the ESS curriculum. Depending on your focus, topics at the ETH or at other UZH faculties may be of special interest to you. It is possible to take up such a topic and their teachers can act as supervisor for your thesis. However, the supervision team needs to be chaired by a professor from UZH GIUZ (a "*Fakultätsmitglied*", i.e. full professor, associate professor or SNF professor) and the thesis must be defended at the UZH. Other MNF teachers with promotional rights ("*Promotionsrecht*") may act as chair after approval by the dean's office ("*Dekanat*"). Once you defined a topic and found a supervisor, you need to fill out the MSc-thesis agreement form and hand it in to the study coordinator. He/she will ensure registration for module ESS511.

## 4.6. Internship

The MSc internship is a 2-3 months opportunity to apply your ESS knowledge in a setting of your preference: academic, company, research institute, non-governmental organization, etc. The main requirement is that you are responsible for a task at academic level and within an ESS scope. The internship consists of two weeks of preparation and reporting and at least eight weeks on location (15 ECTS in total). The report should be concise (min. 5, max. 10 pages) and demonstrate the responsibility you had and the topic(s) you worked on.

If you decide to do an academic internship, this can either be a short project of your choice or you can request a 15-ECTS extension of your MSc thesis. This is equivalent to a specialized master in other curricula.

Internship positions need be organized independently. Open positions can be published on the department's website but it is usually more effective to search with institutions of your interest directly. For instance, visit their websites or contact their internship contact person or a person responsible for the topic you are interested in. The Career Services of the University may have open positions listed as well (in German): [www.careerservices.uzh.ch/studierende/stellenboerse.html](http://www.careerservices.uzh.ch/studierende/stellenboerse.html). Note that internships longer than 3 months are allowed but may require a longer study time.

### 4.6.1. Registration for the internship

There is no internship module to register for. The 1-page proposal needs to be approved by the ESS scientific coordinator and after finishing the internship, a short form has to be filled out, signed by the internship contact person and handed in to the study coordinator, together with the internship report. The credit points will then be manually assigned.

## **4.7. Tutorials**

Contribution as tutor to courses within the Department of Geography is awarded with two credit points (credited to the free choice). During the full ESS curriculum (bachelor and master), a maximum of 5 ECTS can be credited.

Tutorials are a valuable experience and offer training of educational skills. Tutors support the teacher during exercises or assignments. Tasks may include the preparation or evaluation of assignments, the guidance and assistance of students during the assignment and the correction of handed-in assignments. You train and refresh your own knowledge and help passing it on. It is a great training in teaching and it is without doubt beneficial if you wish to apply for semester assistant positions. Besides the credit points, you receive a financial compensation.

Open positions for tutorials are published on the website and during the preceding semester.

## **5. Working as an Earth-system scientist**

Earth-system scientists have a wide range of professional options, ranging from education or academia to (non-) governmental institutes and for-profit companies. The educational background of Earth-system scientists is interdisciplinary and their skillset makes that they can quickly familiarize and develop themselves in any of the studied fields. ESS candidates are particularly strong in linking processes and studying the large system of which these processes form part. This is essential for contemporary issues like environmental change or food and energy. More general, ESSers can work on a broad range of cases where humans interact with their environment and, as such, with our planet.

### **5.1. Employment Situation**

Earth-system scientists usually find jobs quickly after their graduation, both in Switzerland and abroad. Thanks to the social importance of topics like environmental protection, natural hazards and support of growing human population, the jobs for Earth-system scientists are interesting and challenging. Even if your ambition is outside of the common ESS applications, the strong analytical background that the ESS curriculum offers is very attractive for companies.

## 6. Varia

### 6.1. Matriculation / Change of Major

#### *General enrollment*

For the first registration or after a period of having been unregistered, you need to send your application to the Student Administration Office (“Kanzlei”), Internet: [www.uzh.ch/studies/adresses.html](http://www.uzh.ch/studies/adresses.html)

Registration deadline:

- Fall semester: 30<sup>th</sup> of April
- Spring semester: 30<sup>th</sup> of November

#### *Semester enrollment*

Deadlines:

- Fall semester: 15<sup>th</sup>-31<sup>st</sup> of May
- Spring semester: 15<sup>th</sup>-30<sup>th</sup> of November

#### *Change of major or faculty*

If you change your major or the faculty you have to inform the Student Administration Office (address see above). You have to show up personally with your student ID and the transcript of records.

#### *Registration deadline*

- Fall semester: 31<sup>st</sup> August
- Spring semester: 31<sup>st</sup> January

### 6.2. Contact points at the Department of Geography

Department of Geography (Building 25)  
University of Zurich-Irchel  
Winterthurerstrasse 190  
CH-8057 Zürich  
Switzerland

**Approach with public transport:**

- Tramline 9 and 10: Station Irchel
- Tramline 7 and 14: Station Milchbuck
- Bus line 69 and 72: Station Milchbuck

*Important contact points at the Department:*

	Room	Phone	e-mail
Secretariat of the Department	25-K-13	044/635 51 11	secretary@geo.uzh.ch
Student Counseling	25-K-10	044/635 51 18	beratung.lehre@geo.uzh.ch
Library	25-K-22	044/635 51 16	geobib@geo.uzh.ch

*Student Counseling*

The academic advisors care about all the questions related to the studies in Geography and Earth System Science. The office hours are published on the website. If you need an appointment it's recommended to apply online ([www.terminland.de/giuz-studienberatung](http://www.terminland.de/giuz-studienberatung)). If you have a specific question please read first the information on the website. ([www.geo.uzh.ch](http://www.geo.uzh.ch))

**Contact of the Student Advisory Services:**

Phone                044/635 51 18  
e-mail:              [beratung.lehre@geo.uzh.ch](mailto:beratung.lehre@geo.uzh.ch)

For questions about registration please contact the Student Administration Office.

*Consultation hours of the professors*

Apply at the secretariat of the corresponding unit.

*Notice board*

Notice boards are located in the entrance hall (H-floor) and the K-floor. There it is informed about lectures, excursion, colloquiums, minor subjects, job and internship offers etc.

*Entry lists*

The registration for excursions and tutorials is done via the online platform OLAT ([www.olat.uzh.ch](http://www.olat.uzh.ch)).

**6.3. Libraries**

The students are offered a variety of libraries. For example:

- Library of the Department of Geography, with reading room, 25-K-22 ([www.geo.uzh.ch/en/library](http://www.geo.uzh.ch/en/library))
- Main Library of the University of Zurich, Winterthurerstr. 190, 8057 Zürich ([www.hbz.uzh.ch](http://www.hbz.uzh.ch))
- Zentralbibliothek Zürich, Predigerplatz ([www.zb.uzh.ch](http://www.zb.uzh.ch))
- ETH-Library, ETH-City Campus ([www.ethbib.ethz.ch](http://www.ethbib.ethz.ch))
- Library of Earth Sciences, Sonneggstrasse 5 ([www.ethbib.ethz.ch/dez/erd.html](http://www.ethbib.ethz.ch/dez/erd.html))
- Schweizerisches Sozialarchiv, Stadelhoferstrasse 12 ([www.sozialarchiv.ch](http://www.sozialarchiv.ch))

**6.4. Student Society Geography (“Fachverein”)**

The Student Society Geography and Earth System Science primary aims the protection of the interests of the students towards the Department. It is close to the University of Zurich Student Association (VSUZH). New students are always welcome to join!

*Membership*

All interested people (students, former students, lecturers) can join the association. At the beginning of every new study year the Student Society

informs the new students about his activities and possibilities of cooperation and membership.

#### *Geoteam (=board or "Vorstand")*

The Geoteam, a collective board, presides over the Student Society Geography and ESS. It is elected for a year at the meeting of members in January. The board meetings are open for everyone; the dates are published on the website of the Student Society ([www.geoteam.uzh.ch](http://www.geoteam.uzh.ch)).

#### *Activities*

The website given above also informs about the ongoing activities, like ski- or hiking weekends. The Student Society offers the possibility, to establish contacts between the students, but it also aims to cooperate with the lecturer as well as with other student societies. The Geoteam also organises parties like the popular "Geofest" and launched the "DoBar" with big success. It is always good fun to join these activities!

#### *Geoscope*

The Geoscope is the magazine of the Student Society Geography, which is addressed mainly to the students. Debated are actual issues of the studies in geography. An indispensable study companion for everyone who wants to deal actively with geography and the University! The articles are released under the responsibility of the author. Writers and Editors ensure a publication every half a year.

#### *Contacts*

##### Geoteam

Fachverein Geographie  
Winterthurerstr. 190  
8057 Zürich  
[geoteam@geo.uzh.ch](mailto:geoteam@geo.uzh.ch)  
[www.geoteam.uzh.ch](http://www.geoteam.uzh.ch)

##### Geoscope

Winterthurerstr. 190  
8057 Zürich  
[geoscope@geo.uzh.ch](mailto:geoscope@geo.uzh.ch)



The office of the Geoteam is on the H-level in the building 23.

## **6.5. Important University Information Offices**

*Student Administration Office (Kanzlei)*

**[www.uzh.ch/studies/adresses.html](http://www.uzh.ch/studies/adresses.html)**

University Main Building, Rämistrasse 71, 8006 Zürich, room E 8

Tel. 044 / 634 22 17, Mail: [kanzlei@uzh.ch](mailto:kanzlei@uzh.ch)

Opening hours: Mo - Fr: 9.30-12.30

*Student Affairs Office, Faculty of Science (MNF)*

**[www.mnf.uzh.ch](http://www.mnf.uzh.ch)**

University Irchel, room 10-G-23

Tel. 044 / 635 40 07, Mail: [diplom@mnf.uzh.ch](mailto:diplom@mnf.uzh.ch)

Opening hours: Tue / Thu: 10.00-12.30 / 13.45-16.15,

Wed: 10.00-12.30 (in the semester holidays only in the mornings)

*Institute of Education*

**[www.ife.uzh.ch/igb.html](http://www.ife.uzh.ch/igb.html)**

Beckenhof 35, 8006 Zürich

Tel. 043 / 305 66 55, Mail: [sekretariat@igb.uzh.ch](mailto:sekretariat@igb.uzh.ch)

*Psychological Counselling Service*

**[www.pbs.uzh.ch](http://www.pbs.uzh.ch)**

Plattenstrasse 28, 8032 Zürich

Tel. 044 / 634 22 80, Mail: [pbs@ad.uzh.ch](mailto:pbs@ad.uzh.ch)

Dates by arrangement, also during semester holidays. Consultations are free of charge and are obliged to maintain confidentiality.

*Advisory Centre for Grants and Loans*

**[www.studienfinanzierung.uzh.ch/index.html](http://www.studienfinanzierung.uzh.ch/index.html)**

University Main Building, Rämistrasse 71, 8006 Zürich, room KOL E10

Tel. 044/634 22 04, Mail: studienfinanzierung@ad.uzh.ch  
Opening hours: Tue - Fr: 10.00-12.30. Dates by arrangement.

*Verbindungsstelle zwischen Armee und Hochschulen*

**[www.vtg.admin.ch/internet/vtg/de/home/militaerdienst/dienstleistende/dvs/allg/armee\\_studium/wieorganisiere.html](http://www.vtg.admin.ch/internet/vtg/de/home/militaerdienst/dienstleistende/dvs/allg/armee_studium/wieorganisiere.html)**

ETH Hauptgebäude, Rämistrasse 101, 8092 Zürich, Raum E 10.2

Die Verbindungsstelle zwischen Armee und Hochschulen sucht erst bei abgelehnten Gesuchen nach Ersatzlösungen und unterstützt in Härtefällen Wiedererwägungsgesuche.

*International Relations Office (Exchange Programs)*

**[www.int.uzh.ch/contact.html](http://www.int.uzh.ch/contact.html)**

University Main Building, Rämistr. 71, 8006 Zürich, room KOL E 17

Tel. 044/634 41 57, Mail: international@int.uzh.ch

Opening hours: Mo - Fr: 9.30 - 12.30 or by arrangement

*Academic Sports Association Zurich (ASVZ)*

**[www.asvz.ch](http://www.asvz.ch)**

Secretary and information desk: Polyterrasse ETH,

Tel. 044/632 42 10, Mail: info@asvz.ethz.ch

September-Mai: Mo - Fr 10.00 - 16.00 / Thu 10.00 - 19.00

June-August: Mo - Fr 10.00 - 14.00

*Accommodation Agency*

Room and flat agency for students, lecturers and employees of the University of Zurich and ETH Zurich

**[www.wohnen.ethz.ch](http://www.wohnen.ethz.ch)**

Sonneggstrasse 27, 8092 Zürich

Tel. 044/632 20 37, Mail: zimmervermittlung@ethz.ch

Opening hours: Mo, Wed - Fr 11.00 - 13.00

Studentische Wohngenossenschaft (Woko)

**[www.woko.ch](http://www.woko.ch)**

Sonneggstrasse 63, 8006 Zürich

Tel. 044/632 42 90, Mail: [woko@woko.ch](mailto:woko@woko.ch)

Opening hours: Mo - Thu 11.00 - 15.00

Phone hours: Mo - Thu 9.00 - 13.00

*Employment Agency*

**[www.arbeitsvermittlung.uzh.ch](http://www.arbeitsvermittlung.uzh.ch)**

Rämistrasse 62, 8001 Zürich

Tel. 044/634 21 73

Opening hours: Mo - Thu 9.00 - 17.00

Open positions are published on the website.

*Further offerings*

**[www.students.ch/jobs](http://www.students.ch/jobs)**

**[www.marktplatz.uzh.ch](http://www.marktplatz.uzh.ch)** (also for rooms and flats)

*Career Services*

**[www.careerservices.uzh.ch](http://www.careerservices.uzh.ch)**

Hirschengraben 60, 8001 Zürich

Tel. 044/634 21 53 or 54 or 62