

Curriculum for the award of the Degree of

Master Minor in Environmental Sciences and Humanities

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1 Introduction

The **Master Minor in Environmental Sciences and Humanities** educates generalists in environmental sciences with a special competence in environmental humanities and ethics. All modules consist of course units providing a general overview or introduction to the fields of studies and allow for deeper insight in specific fields of environmental sciences and humanities. The program is based on an interfaculty and a humanistic approach.

This curriculum introduces the course structure of the Master Minor study programme in Environmental Sciences and Humanities. It is based on the regulations of the Faculty of Science and Medicine as defined in the *Règlement pour l'obtention des Bachelor of Science et des Master of Science de la Faculté des sciences et de médecine*, which entered into force on 30 May 2022 (hereafter called Regulation).

The Regulation of 30 May 2022 for the award of the Bachelor of Science and Master of Science degrees establishes a limit on the duration of Bachelor's and Master's studies, as well as of the Master Minor study programmes (see articles 11, 13 and 14) (<https://www.unifr.ch/scimed/fr/rules/regulations>).

1.1 Course Structure

The Master Minor study programme in Environmental Sciences and Humanities spans over four semesters, and corresponds to a minimum of 30 ECTS credits.

The Master Minor can be chosen as a secondary programme for Master students whose curriculum calls for a Minor during the course of their master studies. Students whose curriculum does not require a Minor during the Master, may follow the programme as an “additional studies” programme

The Master Minor study programme integrates courses in natural and human sciences, in law, economics, the humanities and theology. The course programme consists of the following modules. Students are required to complete the compulsory modules and 6 ECTS in one of the two compulsory elective modules. Choice of courses among the elective modules is free:

Teaching unit	Modules	ECTS
Compulsory	Environmental humanities	15
Compulsory elective ¹	Geosciences Environmental Biology	6-15
Elective	Sustainable Economy Environmental Law Theology and Humanity	0-9

¹ Students can choose either one or both modules. However, for each chosen module at least 6 ECTS have to be acquired.

All teaching units of this program are followed in their faculties and departments of origin together with students from the respective fields. The Master Minor program is divided into three categories: a compulsory unit, a compulsory elective unit and an elective unit.

1. The environmental humanities module is compulsory and consists in courses in the fields of the environmental humanities and in ethics. Examples are courses in environmental ethics, methods of ethical decision-making and courses in environmental history and political ecology.
2. The geosciences module and the environmental biology module are deepening knowledge in methods and theory of earth sciences, human and physical geography as well as knowledge in ecology and biological evolution.
3. The elective modules consist of courses in sustainable economy, environmental law, and in courses from the humanities and in theology providing background in economic thinking in the context of sustainability, public law at national, European and international levels and extending humanist background to environmental challenges.

1.2 Admission to the Programme of Study

Acceptance to the Master Minor programme in Environmental Sciences and Humanities may be granted provided the following two conditions have been met by the applicant:

- The student is registered for a master at the University of Fribourg and satisfies the University admission requirements as defined in the *Règlement concernant l'admission à l'Université de Fribourg* (<https://www.unifr.ch/apps/legal/fr/document/274904>),
- The student possesses a Bachelor of Science from a Swiss University in Environmental Sciences, in Biology, in Geography, or in Earth Sciences. The same holds for students in possession of a Bachelor in Anthropology, Economics, Law, Theology, or Philosophy accompanied by a Minor in Environmental Sciences and Humanities, Biology, Geography or Geology or an academic degree judged equivalent by the Faculty of Science and Medicine.

Candidates in possession of a Bachelor degree from abroad, in a different subject or without one of the necessary accompanying Minors or of equivalent degrees (e.g. after graduating from an engineering school) can also be admitted to the Master Minor study programme by a decision of the Faculty of Science and Medicine to be made in each individual case

1.3 Acquired Skills

The aim of the Master Minor in Environmental Sciences and Humanities is to deepen knowledge and to acquire competences in the field of Environmental Sciences with a special focus on the environmental humanities and ethics. At the end of the programme, a student will have shown that they understand the basic background of environmental challenges and they can apply their interdisciplinary knowledge to practical problems. The completion of the Master Minor requires creative and self-critical talents as well as the ability to communicate ideas and work both in English and one's native language.

1.4 Assessment of Courses and Acquisition of ECTS Credits

Exercises are assessed following the criteria given at the beginning of each course. Admission to an exam corresponding to a lecture course can be subject to meeting the requirements of the corresponding exercise class. **Assessment** of lectures is done by an oral and/or written exam, whose type and duration are regulated in the appendix to this curriculum. Exams take place during the official exam periods (sessions) in winter, summer, and autumn. Students register via the students' web portal MyUniFR (<https://my.unifr.ch>), within the stipulated delays for each exam according to the online procedure. Marks range from 6 (highest mark) to 1 (lowest mark). An exam marked below 4 can be repeated once at the next exam session at the earliest.

This curriculum comprises one validation package (the same regulations apply as for “a Minor at Bachelor level”, see Art. 24 and 27 of the regulation).

The conditions for validation of ECTS credits are described in Art. 25 of the Regulation.

After the validation, upon request, the Dean's office will issue transcripts of records in which exam results and awarded credits are acknowledged (Art. 28 and 30 of the Regulation), provided the exam fee has been paid.

1.5 Teaching Languages

The course language will be mainly English, with French and German depending on faculty and occasions. For exams and written work (project reports, etc.) students can choose between German, French, and English. The most common language for exams will be English.

1.6 Ethics and Science

Ethical principles are an integral part of a scientific education. Accepted international conventions must be respected during research and upon the writing of any scientific work whether it is a project, a lecture, a thesis or a report. In particular, every external source of information (articles, lectures, web pages, etc.) must be correctly cited.

1.7 Regulations and Additional Information

Detailed information about studying Environmental Sciences and Humanities can be found in the documents referenced on the web page <http://www.unifr.ch/scimed/en/plans> which can also be obtained from the Office of the University of Fribourg Environmental Sciences and Humanities Institute, Chemin du Musée 4, CH-1700 Fribourg.

2. Master Minor

[Version 2024, validation packages : PV-SSE.0000051]

2.1 Teaching Units

Most course units are units not tailored for students from the Master Minor in Environmental Sciences and Humanities but for students of the specific fields of study. Be prepared to invest some time to acquire additional basic knowledge if needed. If foreign to a field of study, it is recommended to follow more basic course units before attending more advanced course units (most probably units at master level). There are several courses available to acquire the necessary background knowledge. Note, however, that these courses are extracurricular and are not part of the 30 ECTS of the study programme.

2.1.1 Compulsory Teaching

Environmental Humanities Module

Code	Course	Semester	tot. h.	ECTS
<i>Compulsory courses¹</i>				
<i>One of the following two courses:</i>				
SSE.00432	Principles of environmental ethics (advanced), including reading seminar ²	AS	56	6
SSE.00452	Responsibility in green political theory (advanced), including reading seminar ²	AS	56	6
<i>The following course:</i>				
SSE.00470	Case studies in environmental sustainability	SS	28	3
<i>Elective courses</i>				
SSE.00420	Justice in managing environmental challenges ²		28	3
SSE.00433	Principles of environmental ethics (advanced) ^{2,3}	AS	28	3
SSE.00450	Responsibilities for sustainability ²		28	3
SSE.00453	Responsibility in green political theory (advanced) ^{2,3}	AS	28	3
SSE.00455	Environmental Ethics for the Anthropocene ²	AS / SS	28	3
SGG.00485	Environmental history	SS	28	3
SGG.00487	Issues in environmental ethics ²	AS / SS	28	3
SGG.00477	Political ecology	SS	28	3
Total				15

¹ To be followed in the first three semesters. Ideally, SSE.00432 or SSE.00452 is followed before SSE.00470 but they are no strict pre-requisite.

² Given every second year

³ Can only be followed if corresponding course including the reading seminar has not been followed (SSE.00433/SSE.00453 only if SSE.00432/SSE.00452 has not yet been followed).

2.1.2 Compulsory Elective Teaching

Students can follow one or both modules. For each chosen module at least 6 ECTS have to be acquired.

Geosciences Module

Code	Course	Semester	tot. h.	ECTS
Compulsory courses				
<i>At least one of the following courses.</i>				
SGG.00424	Hazards, risks and vulnerability	AS	28	3
SGG.00426	Climate change: state of the art and debates	AS	28	3
SGG.00512	Geocolloquium ¹	AS/SS	28	3
Elective courses				
<i>Bachelor level²</i>				
SGS. 01001	Introduction aux géosciences 1 – Espace et Société / Einführung in die Geowissenschaften 1 – Raum und Gesellschaft	AS	28	3
SGS. 01002	Introduction aux géosciences 2 – Atmosphère, Hydrosphère et Climat / Einführung in die Geowissenschaften 2 – Atmosphäre, Hydrosphäre und Klima	SA	28	3
SGS.00106	Histoire de la Terre / Erdgeschichte	SS	28	3
SGG.00205	Géographie urbaine / Stadtgeographie	SS	28	3
SGS.01201	Ecologie politique de l'eau	SS	14	1.5
SGS.01301	Géologie et société: défis appliquées	SS	14	1.5
<i>Master level³</i>				
SGG.00486	Advanced social research methods	AS	28	3
SGG.00409	Models, modelling and representations	AS	28	3
SGG.00425	Data and methods for environmental analysis	AS	28	3
SST.00538	Palaeoclimatology and palaeoecology	AS	28	3
Total				6-15

¹ 25 Geocolloquium sessions can be attended over 4 semesters.

² Can only be followed if no studies in geosciences during Bachelor level.

³ Please consider potential pre-requisites! Consult the information provided in the course catalog (<https://www.unifr.ch/timetable>) or in the study portal MyUniFR (<https://my.unifr.ch>).

Environmental Biology Module

Code	Course	Semester	tot. h.	ECTS
Compulsory courses				
<i>At least one of the following MSc level courses.</i>				
SBL.20031	Community Ecology ¹	SS	28	3
SBL.20036	Global Change ¹	AS	28	3
SBL.20037	Invasion Biology ¹	AS	28	3
Elective courses				
<i>Bachelor level²</i>				
SBL.00013	Ecologie / Ökologie	AS	42	4
SBL.00014	Biologie moléculaire / Molekularbiologie	AS	28	3
SBL.00018	Biologie moléculaire des plantes / Molekularbiologie der Pflanzen	AS	28	3
SBL.00021	Biologie de l'évolution / Evolutionsbiologie	AS	28	3

SBL.00040	Organismenbiologie I: Wirbeltiere (Vorlesung und Praktikum/Exkursionen)	AS	28	3
SBL.00041	Organismenbiologie II: Wirbellose Tiere (Vorlesung und Praktikum/Exkursionen)	SS	28	3
SBL.00045	Hormones et développement des plantes / Hormone und Entwicklung der Pflanzen	SS	28	3
SBL.00049	Génétique des populations / Populationsgenetik	AS	28	3
SBL.00061	Diversité fonctionnelle des microorganismes / Funktionale Diversität der Mikroorganismen	AS	14	1.5
SBL.00063	Bases de bactériologie / Grundlagen der Bakteriologie	AS	14	1.5
SBL.00068	Phytopathologie et interactions plantes-pathogènes / Phytopathologie und Pflanzen-Pathogen Interaktionen	AS	18	3
SBL.00074	Organismenbiologie II: Wirbellose Tiere (Vorlesung und Praktikum/Exkursionen)	SS	72	5
<i>Master level</i>				
SBL.00323	Plant Biotechnology ¹	SS	28	3
SBL.00421	Oceanography and marine ecosystems	SS	8	1
SBL.10007	Polar Biology ¹	SS	8	1
SBL.20034	Evolutionary Genomics	SS	28	3
Total				6-15

¹ Given every second year

² Can only be followed if no studies in biology during Bachelor level.

Bachelor level and Master level courses presuppose basic knowledge in biology (as taught in SBL.00001-SBL.00004) and have strict pre-requisites (see below). Students not having acquired at least 30 ECTS in Biology or similar during BSc studies follow elective courses at Bachelor level only, before taking Master level courses. Students having acquired less than 30 ECTS in Biology during BSc studies agree with the study advisor of this MSc to clarify what pre-requisites for Master level courses apply to them. Pre-requisites are defined as follows:

<i>Course to attend</i>	<i>Pre-requisites</i>
SBL.00323	SBL.00014, SBL.00018
SBL.00421	SBL.00013
SBL.10007	SBL.00013
SBL.20031	SBL.00013
SBL.20034	SBL.00021, SBL.00049
SBL.20036	SBL.00013
SBL.20037	SBL.00013

2.1.3 Elective Teaching

No conditions for the choice of courses apply but students are not allowed to choose subjects from their main field of study (e.g. law students cannot take any law courses, economy students cannot take any economy courses, historians cannot take any history courses etc.)

Sustainable Economy Module

Code	Course	Semester	tot. h.	ECTS
<i>Elective courses</i>				
<i>Bachelor level¹</i>				
EEP.00336	ECO02F: Économie publique	SS	56	6
EEP.00337	ECO02D: Wirtschafts- und Finanzpolitik	SS	56	6
<i>Master level</i>				
EGE.00073	Markt und Strategie von Nonprofit-Organisationen	SS	42	4,5
EGE.00076	Performance Measurement in Nonprofit Organisations	SS	42	4,5
EGE.00108	Marketing durable	SS	42	4,5
EEP.00125	Sustainable Globalization	AS	42	4,5
EEP.00127	Business and Human Rights	AS	28	3
EEP.00131	Demography, Immigration and Labor Markets	SS	24	4,5
EEP.00147	Microéconomie du développement ²	SS	42	4,5
EEP.00153	Politiques de développement ³	AS	42	4,5
EEP.00321	Aide, microcrédit et autres instruments de développement ²	SA	42	4,5
EEP.00334	Global Economic Justice ²	SS	42	4,5
EEP.00357	ECO07F: Économie du développement	SS	42	4,5
EEP.00365	Femmes et familles dans le monde en développement ³	SS	42	4,5
Total				0-9

¹ For students with no experience in economics studies it is recommended to follow one of the two suggested BSc level courses (ECO02F or ECO02D).

² Given every second year

³ Offered on announcement only

Environmental Law Module

Code	Course	Semester	tot. h.	ECTS
<i>Elective courses</i>				
<i>Master level</i>				
DDR.00456	Introduction to Swiss Law	AS		5
DDR.00791	Raumplanungs- und Baurecht / Droit de l'aménagement du territoire et de la construction	AS		5
DDR.02418	Umweltrecht / Droit de l'environnement			5
DDR.02419	Natur- und Heimatschutzrecht / Protection de la nature et du patrimoine			5
DDR.02452	Economy, Governance, Climate			5
DDR.02438	Europäisches Umweltrecht			5
DDR.02248	Global Justice and the Law			5
DDR.00596	International and European Responsibility Law	SS		5
DDR.02455	International and European Human Rights Law			5
DDR.02453	International and European Refugee Law			5

Total	0-10
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Humanities and Theology Module

Code	Course	Semester	tot. h.	ECTS
<i>Elective courses</i>				
	Master courses from a list of courses at the Faculty of Humanities and the Faculty of Theology decided by the director of the program. ⁵			9
Total				0-9

⁵ The list of courses can be found on <https://www.unifr.ch/env/en/studies/master-environmental-sciences-and-humanities/> and is being updated at the beginning of each academic year.

2.2 Examinations of the Master Minor and Validation

The teaching units of the *Environmental Humanities Module* are evaluated according to the modes described in the document “Modalités d’évaluation des UE des sciences de l’environnement”. The assessments of *all other modules* take place according to the information provided by the study plans of the concerned programs.

The **Master Minor in Environmental Sciences and Humanities** is completed upon the validation of all courses.