

Curriculum for the award of the Degree of

Master Minor in Environmental Sciences and Humanities

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CONTENTS

1	INTRODUCTION	3
1.1	Course Structure	3
1.2	Admission to the Programme of Study	4
1.3	Acquired Skills	4
1.4	Assessment of Courses and Acquisition of ECTS Credits	4
1.5	Teaching Languages	5
1.6	Ethics and Science	5
1.7	Regulations and Additional Information	5
2.	MASTER MINOR	6
2.1	Teaching Units	6
2.1.1	Compulsory Teaching Unit	6
2.1.2	Compulsory Elective Teaching Unit.....	7
2.1.3	Elective Teaching Unit.....	8
2.2	Examinations of the Minor and Validation	10

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. Student 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 unit and 6 ECTS in one of the two modules of the compulsory elective module. Choice of courses in the elective teaching unit 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 compulsory teaching unit consist of the environmental humanities module consisting 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 compulsory elective teaching unit consist of the geosciences module and environmental biology module 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 teaching unit consist of the sustainable economy, environmental law, and the humanities and theology modules 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 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 2022, validation packages : PV-SSE.0000038]

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.¹

2.1.1 Compulsory Teaching Unit

Environmental Humanities Module

Code	Course	Semester	tot. h.	ECTS
<i>Compulsory courses¹</i>				
SSE.00432	Principles of environmental ethics (advanced), including reading seminar	AS	56	6
SSE.00445	Issues of sustainable development (advanced), including case studies	SS	56	6
<i>Elective courses</i>				
SSE.00420	Justice in managing environmental challenges ²		28	3
SSE.00433	Principles of environmental ethics (advanced)	AS	28	3
SSE.00444	Issues of sustainable development (advanced)	SS	28	3
SSE.00450	Responsibilities for sustainability ²		28	3
SGG.00485	Environmental history	SS	28	3
SGG.00487	Issues in environmental ethics ³	AS / SS	28	3
SGG.00477	Political ecology	SS	28	3
Total				15

¹ To be followed in the first two semesters

² Offered on announcement only

³ Given every second year

2.1.2 Compulsory Elective Teaching Unit

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.00101	Introduction aux géosciences, partie 1 (cours) / Einführung in die Geowissenschaften, Teil 1 (Vorlesung)	AS	28	3
SGS.00102	Introduction aux géosciences, partie 2 (cours) / Einführung in die Geowissenschaften, Teil 2 (Vorlesung)	SS	28	3
SGS.00106	Erdgeschichte (Vorlesung)	SS	28	3
SGG.00205	Géographie urbaine / Stadtgeographie	SS	28	3
SGG.00266	Géographie de l'eau / Geographie des Wassers / Geography of water	AS	28	3
<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 courses.</i>				
SBL.20031	Community Ecology ²	SS	28	3
SBL.20036	Global Change ²	AS	28	3
SBL.20037	Invasion Biology ²	AS	28	3
Elective courses				
<i>Bachelor level³</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.00068	Phytopathologie et interactions plantes-pathogènes / Phytopathologie und Pflanzen-Pathogen Interaktionen	AS	18	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
<i>Master level</i>				
SBL.00323	Plant Biotechnology ²	SS	28	3
SBL.00421	Oceanography and marine ecosystems ¹	SS	8	1
SBL.10007	Polar Biology ²	SS	8	1
SBL.20034	Evolutionary Genomics	SS	28	3
Total				6-15

¹ Presupposes good knowledge in analysis as taught in UE-SMA.01103 and UE-SMA.01104

² Given every second year

³ Can only be followed if no studies in biology during Bachelor level.

Master courses presuppose basic knowledge in biology (as taught in SBL.00001-SBL.00004 / SBL.00040, SBL.00041 and SBL.00074) and have strict pre-requisites. These pre-requisites should ideally be taken before the specific Master-level course. Depending on the course you plan to attend 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 Unit

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</i>				
EEP.00336	ECO02F: Économie publique	SS	56	6
EEP.00337	ECO02D: Wirtschafts- und Finanzpolitik	SS	56	6

<i>Master level</i>				
EEP.00321	Aide, microcrédit et autres instruments de développement ¹	SA	42	4,5
EEP.00147	Microéconomie du développement ¹	SS	42	4,5
EEP.00153	Politiques de développement ²	AS	42	4,5
EEP.00357	ECO07F: Économie du développement	SS	42	4,5
EEP.00365	Femmes et familles dans le monde en développement ²	SS	42	4,5
EEP.00131	Demography, Immigration and Labor Markets	SS	24	4,5
EEP.00125	Sustainable Globalization	AS	42	4,5
EGE.00108	Marketing durable	SS	42	4,5
EGE.00073	Markt und Strategie von Nonprofit-Organisationen	SS	42	4,5
EGE.00076	Performance Measurement in Nonprofit Organisations	SS	42	4,5
EEP.00334	Global Economic Justice ¹	SS	42	4,5
EEP.00127	Business and Human Rights	AS	28	3
Total				10,5

¹ Given every second year² 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.00798	Raumplanungs- und Umweltrecht	AS		5
DDR.01781	Droit pénal et atteintes à l'environnement et aux espèces vivantes ¹	SS		5
DDR.00596	International and European Responsibility Law	SS		5
DDR.00766	Europäischer und internationaler Menschenrechtsschutz	AS		5
DDR.00579	Droit international et européen des droits de l'homme	AS		5
DDR.00791	Aménagement du territoire/protection de l'environnement ¹	SS		5
Total				10

¹ Given every second year**Humanities and Theology Module**

Code	Course	Semester	tot. h.	ECTS
<i>Elective courses</i>				
	Two 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		56	6
Total				6

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 Environmental Sciences and Humanities”. 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.