Master's degree in Earth System Science
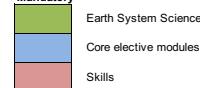
with 30 ECTS credits Master's thesis

CP	7. Semester (HS)	8. Semester (FS)	9. Semester (HS)	CP
1	**ESS 401** Current Themes in Earth System Science	**ESS 416** Earth System Modelling	**ESS 511** Master's Thesis	1
2				2
3	3 CP			3
4	**ESS 417** Earth System Observations and Analyses	4 CP		4
5				5
6				6
7				7
8	5 CP			8
9	**Core elective modules** At least two Systems with a minimum of 12 CP in each System			9
10				10
11				11
12				12
13				13
14				14
15				15
16				16
17				17
18				18
19				19
20				20
21				21
22				22
23				23
24	36 CP			24
25	**Skills**			25
26				26
27	6 CP			27
28	**Elective modules**			28
29	4 CP			29
30			30 CP	30
31			**ESS 512** Master's Exam	31
32			2 CP	32

with 60 ECTS credits Master's thesis

CP	7. Semester (HS)	8. Semester (FS)	9. Semester (HS)	CP
1	**ESS 401** Current Themes in Earth System Science	**ESS 416** Earth System Modelling		1
2				2
3	3 CP			3
4	**ESS 417** Earth System Observations and Analyses	4 CP		4
5		**ESS 510** Master's Thesis		5
6				6
7				7
8	5 CP			8
9	**Core elective modules** Two Systems with 8 CP in each System			9
10				10
11				11
12				12
13				13
14				14
15				15
16				16
17				17
18				18
19				19
20				20
21				21
22				22
23				23
24	16 CP			24
25				25
26				26
27				27
28				28
29				29
30				30
31				31
32		60 CP		32
33		**ESS 512** Master's Exam		33
34		2 CP		34

Legend

Mandatory
- Earth System Science
- Core elective modules
- Skills

Elective section
- Elective modules from UZH or ETH

CP	ECTS credits
HS	fall semester
FS	spring semester
ir	irregular course
b	block course
2	Course over two semesters
UZH	Lecture codes starting with: ESS, GEO, BIO, STA, UWW
ETH	Lecture codes starting with: 102, 651, 701, 751, 851

Contact:
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Core elective and Skills module list

Geo-Biosphere System (Core elective)

Code	CP	Sem.	Module title
ESS 842	6	FS,b	Analyzing the plant-soil system: Practice
GEO 417	6	HS,2	Environmental archives and age determination
GEO 463	6	HS	Soil science I: current challenges in plant-soil systems
GEO 818	6	HS,2	Dendro-Ecology
GEO 820	2	FS	Stable isotopes in ecology and soil science
BIO 148	3	FS	Introduction to Paleontology
BIO 308	3	HS	Introduction to Limnology (Inland water ecosystems)
UWW 220	3	HS,b	Species Interactions and Biodiversity
UWW 230	2	HS,b	Analysis and Management of Biological Populations
UWW 250	2	HS,b	Spatial Ecology and Remote Sensing
UWW 273	3	HS	Introduction to Theoretical Ecology
651-4004	3	FS	The global carbon cycle - reduced
651-4041	3	HS	Sedimentology I: physical processes and sedimentary systems
651-4044	3	HS	Micropalaeontology and Molecular Palaeontology
651-4070	5	FS,ir	Landslide analysis
751-5118	2	FS	Global Change Biology

Hydro-Atmosphere System (Core elective)

Code	CP	Sem.	Module title
ESS 367	3	FS	Remote Sensing of the Atmosphere
GEO 411	6	FS,ir	Field studies on high mountain processes
GEO 471	6	FS	Hydrological field measurements and calculations
GEO 475	6	HS	Hydrological Modeling and Programming
GEO 815	3	HS	Quantification and modelling of the cryosphere
GEO 851	3	HS	Glacier Mass Balance Measurements and Analysis
GEO 856	3	HS	The high-mountain cryosphere: processes and risks
102-0468	3	FS	Watershed Modelling
651-4023	4	HS	Groundwater
651-4057	3	FS	Climate history and paleoclimatology
701-0412	3	FS	Klimasysteme (German)
701-1228	4	FS	Cloud Dynamics
701-1232	3	FS	Radiation and climate change
701-1251	3	HS	Land-Climate Dynamics
701-1252	3	FS	Climate Change Uncertainty and Risk

Human-Environment System (Core elective)

Code	CP	Sem.	Module title
GEO 423	6	HS	Political Geography
GEO 424	6	HS	Environment in History
GEO 433	6	FS	Global Economic Geographies of Agriculture and Food System
GEO 805	3	HS,b	Natural hazards and risk assessment in mountain regions
GEO 835	3	FS	Geography of Sustainability Transitions
GEO 837	3	HS	Regional Environmental Governance
GEO 857	3	FS	Snow and avalanches: processes and risk management
BIO 312	2	FS	Integrated Species Conservation and Management
UWW 230	2	HS	Analysis and Management of Biological Populations
701-1317	3	FS	Global Biogeochemical Cycles and Climate
701-1651	3	HS	Environmental Governance
860-0023	3	HS	International environmental politics

Skills

Code	CP	Sem.	Module title
GEO 803	2	HS,b	Solving Geospatial Problems using Matlab
GEO 812	1	HS,b	Getting started with R for spatial analysis
GEO 877	3	FS	Spatial algorithms
STA 120	5	FS	Introduction to Statistics
STA 433	2	FS	R programming
UWW 271	4	HS	Contemporary analysis for ecology (R)

Explanation

30 ECTS credits Master's thesis: 36 ECTS credits for Core elective modules (at least two systems with a minimum of 12 ECTS credits in each chosen system) and 6 ECTS credits for Skills

60 ECTS credits Master's thesis: 16 ECTS credits for Core elective modules (two systems with a minimum of 8 ECTS credits in each chosen system)

31.10.23