

Complete list of elective courses at ETH 2023 / 2024

Weather Systems and Atmospheric Dynamics

Module courses

701-1221-00	Dynamics of Large-scale Atmospheric Flow	HS	2V+1U	4
651-4053-05	Boundary Layer Meteorology	HS	3 G	4
701-1224-00	Mesoscale Atmospheric Systems - Observation and Modelling	FS	2 V	2
701-1216-00	Weather and Climate Models	FS	3 G	4
701-1226-00	Inter-annual Phenomena and their Prediction	FS	2 G	2

Recommended electives

701-1236-00	Messmethoden in der Meteorologie und Klimaf.	FS	1 V	1
701-1258-00	The Global Atmospheric Circulation and Climate	FS	1 G	2
701-1266-00	Weather Discussion	FS	2P	2.5

Climate Processes and Feedbacks

Module courses

701-1235-00*	Cloud Microphysics	HS/FS	2V+1U	4
701-1251-00	Land-Climate Dynamics	HS	2 G	3
701-1216-00	Weather and Climate Models	FS	3 G	4
701-1232-00	Radiation and Climate Change	FS	2 G	3
701-1252-00	Climate Change Uncertainty and Risk: From Probabilistic Forecasts to Economics of Clim. Adaption	FS	2V+1U	3
701-1228-00	Cloud Dynamics: Hurricanes	FS	3 G	4

* takes only place in FS when there are enough participants

Recommended electives

651-4057-00	Climate History and Paleoclimatology	HS	2 G	3
701-1221-00	Dynamics of Large-scale Atmospheric Flow	HS	2V+1U	4
701-1257-00	European Climate Change	HS	2G	3
UNIBE-7716	Specialist Course – Climate and Env. Physics	HS	2V+2S	4
UNIBE-6414	Climatology III (Climate Variability and change)	HS	2V	3
701-1226-00	Inter-annual Phenomena and their Prediction	FS	2 G	2
701-1317-00	Global Biogeochemical Cycles and Climate	FS	3 G	3

Atmospheric Composition and Cycles

Module courses

701-1233-00	Stratospheric Chemistry	HS	2V + 1U	4
701-1239-00	Aerosols I: Physical and Chemical Principles	HS	2V+1U	4
701-1234-00	Tropospheric Chemistry	FS	2 G	3
701-1317-00	Global Biogeochemical Cycles and Climate	FS	2 G	3
701-1238-00	Adv. Field and Lab Studies in Atm. Chem. And Climate	FS	2 P	3

Recommended electives

651-4053-05	Boundary Layer Meteorology	HS	3 G	4
701-1235-00	Cloud Microphysics*	HS/FS	2 V+1 U	4
102-0635-01	Luftreinhaltung	FS	4G	6
701-0234-00	Messmethoden in der Atmosphärenchemie	FS	1 V	1
402-0573-00	Aerosols II: Applications in Environm. and Technology	FS	2V + 1U	4
651-4004-00	The Global Carbon Cycle - Reduced	FS	2 G	3

* takes only place in FS when there are enough participants

Climate History and Paleoclimatology

Module courses

651-4057-00	Climate History and Paleoclimatology	HS	2 G	4
701-1317-00	Global Biogeochemical Cycles and Climate	FS	3 G	3
651-4004-00	The Global Carbon Cycle - Reduced	FS	2 G	3
651-4044-04	Micropalaeontology and Molecular Palaeontology	FS	2 G	3
651-4226-00	Geochemical and Isotopic Tracers of the Earth System	FS	2 V	3
651-4157-00 ¹	Past droughts, floods and rainfall variability	FS	2 S	2
651-xxxx-xx ²	Impact and drivers of past ocean circulation changes	FS		2

¹ will be offered every second year (next time in FS 2025)

² will be offered every second year (first time in FS 2024)

Recommended electives

651-4901-00	Quaternary Dating Methods	HS	2 G	3
651-4041-00	Sedimentology I: Physical Processes and Sedimentary Systems	HS	2 G	3
651-4043-00	Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems	HS	2 G	3
651-4049-00	Conceptual and Quantitative Methods in Geochem,	HS	2 G	3
UNIBE-103709*	Methods of Climate Reconstruction	HS every 2yr		2
UNIBE-26396	Quaternary Climate Change and Terrestrial Ecos.	FS	2 V	3

* Takes place as block course (7 days) probably in June 2024

Hydrology and Water Cycle

Module courses

701-1253-00	Analysis of Climate and Weather Data	HS	2 G	3
701-1251-00	Land-Climate Dynamics	HS	2 G	3
102-0468-10	Watershed Modelling	HS	4 G	6
651-4053-05	Boundary Layer Meteorology	HS	3 G	4

Recommended electives

651-4023-00	Groundwater	HS	3 G	4
102-0287-00	River Basin Erosion	HS	2 G	3
701-0535-00	Environmental Soil Physics/Vadose Zone Hydrology	HS	2G+2U	3
651-2915-00L	Seminar in Hydrology	HS	1S	0
860-0012-00	Cooperation and Conflict Over Int. Water Resources	FS	2 S	3
701-1224-00	Mesoscale Atmospheric Systems- Observation	FS	2 V	2

	and Modelling			
701-1216-00	Weather and Climate Models	FS	3 G	4
102-0448-00	Groundwater II	FS	4 G	6
102-0488-00	Water Resources Management	FS	2 G	3

Recommended as additional elective courses

701-1241-00	Atmospheric Remote Sensing	HS	1 V	3
701-1271-00	Statistical Learning for Atmospheric and Climate Science	HS	2G	3
651-4273-00	Numerical Modelling in Fortran	HS	2 V	3
651-4273-01	Numerical Modelling in Fortran (Project)	HS	1 U	1
701-1271-00*	High Performance Computing for Weather and Climate	FS	3G	3
701-3001-00	Environmental Systems Data Science: Data Processing	HS	2 G	2
701-3003-00	Environmental Systems Data Science: Machine Learning	HS	2 G	3
701-1644-00	Mountain Forest Hydrology	HS	3 G	5

* also offered in the category "Lab and Field work"

MSc Environmental Sciences

Methods and tools courses

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