

Module B

Core Courses for the Specialization Earth Materials (EM)

1:23:52 Uhr Samstag, 17. Mai 2025

(will be updated continuously)

sorted by semester and frequency Courses title (35 courses)

Courses	all semesters or unassigned	ECTS	Lecturers	Uni (held in)	Frequency	Year	Sem.	Speciality
Electron Microprobe Analysis - EMPA: Practical course (prer)		1	FPI	BE	annually in fall and spring			ELE, EM, ERG, GEOL, PAQS
Electron microbeam techniques (laboratory)		1	ES/CN	FR	on request			ELE, EM, ERG, GEOL, PAQS
Scanning Electron Microscopy -SEM: Practical course. (Fribourg) (prer)		1	ES/CN	FR	on request			EM, ERG
Scanning Electron Microscopy (SEM): Practical course. (Bern) on request (prer)		1	AB	BE	on request			ELE, EM, ERG, GEOL, PAQS

Courses	Fall Semester HS	ECTS	Lecturers	Uni (held in)	Frequency	Year	Sem.	Speciality
Basic Computer Programming for Geosciences		2	PL/JHE	BE	annually in fall		HS	EM, ERG, GEOL, PAQS
Introduction to Object -Oriented Programming (OOP): Python		2	MW	BE	annually in fall		HS	ELE, EM, ERG, GEOL, PAQS
Laboratory Introduction to Basic Fluid - Rock Analyses		2	/EGAU/gw/la/miw	BE	annually in fall		HS	EM, ERG
Low Temperature Isotope Geochemistry		3	MHW/VASM	BE	annually in fall		HS	ELE, EM, ERG
Natural Zeolites		2	GC	BE	annually in fall		HS	EM, ERG
Reflected-Light Microscopy		1.5	MJ	BE	annually in fall		HS	EM, ERG, GEOL
Hydrothermal processes in oceanic settings		3	ES	FR	biennially in fall	even	HS	ELE, EM, ERG, GEOL
Rock Deformation: Brittle regime (prer)		2.5	MH/GS/JM	BE	biennially in fall	even	HS	EM, ERG, GEOL, PAQS
		3	MAN	BE	biennially in fall	odd	HS	ELE, EM, ERG, GEOL, PAQS
A habitable future? Applications of Environmental Geochemistry		3	aha	BE	biennially in fall	odd	HS	ELE, EM, ERG, GEOL
Atomistic simulations of fluids and solids		2.5	SCh	BE	biennially in fall	odd	HS	EM, ERG
Deep Mantle Properties and Geochemistry		3	sut	BE	biennially in fall	odd	HS	ELE, EM, GEOL
Fluid-solid interactions and diagenesis: processes and sustainable applications		5	AF/ES/ML	FR	biennially in fall	odd	HS	ELE, EM, ERG, GEOL
Ophiolites: Production and destruction of oceanic crust		2.5	JHe	BE	biennially in fall	odd	HS	EM, ERG, GEOL
Rock Deformation: Ductile regime		4	MH/GS/AB	BE	biennially in fall	odd	HS	EM, GEOL
Waste Materials & Circular Economy		1.5	gw/miw	BE	biennially in fall	odd	HS	EM, ERG

Courses	Spring Semester FS	ECTS	Lecturers	Uni (held in)	Frequency	Year	Sem.	Speciality
Electron Beam Microanalytics: Theory - EMPA, SEM, CL		2	PL/AB/BG	BE	annually in spring		FS	ELE, EM, ERG, GEOL, PAQS
Laser-ablation inductively-coupled-plasma mass-spectrometry - LA-ICP-MS. Two days short		1	TP	BE	annually in spring		FS	ELE, EM, ERG, GEOL, PAQS
Single Crystal X-ray Diffraction. Short course. Upon request. (prer)		1.5	GC	BE	annually in spring		FS	EM
Thermodynamic modelling of metamorphic rocks		2	jfo, pl	BE	annually in spring		FS	EM
Using small drones for geoscientific applications		1	MaiD	BE	annually in spring		FS	ELE, EM, ERG, GEOL, PAQS
X-Ray Powder Diffraction. Three-day short course.		1.5	UE/miw/frg	BE	annually in spring		FS	EM, ERG
Applied geochemistry and thermodynamic modelling of cement hydration		1.5	BLo	BE	biennially in spring	even	FS	EM, ERG
Field Trip: Oceanic Lithosphere and subducted equivalents (Liguria)		2.5	TP	BE	biennially in spring	even	FS	EM, ERG, GEOL
From Waste to Resources - and the Challenges in between (Excursion)		1	GW/DVH/miw	BE/FR	biennially in spring	even	FS	EM, ERG, PAQS
Methods of Mass Spectrometry. Short Courses. Upon request (prer)		2.5	mhw/TP/dar/sut	BE	biennially in spring	even	FS	ELE, EM, ERG
Accessory Minerals		2.5	DaR	BE	biennially in spring	odd	FS	EM, GEOL
Geological Disposal of Radioactive Waste		2.5	MM/pw/dgr	BE	biennially in spring	odd	FS	EM, ERG
Geostatistics		2	GK	BE	biennially in spring	odd	FS	ELE, EM, ERG, GEOL, PAQS
Mineral Surface Characterization by Atomic Force Microscopy (AFM)		1.5	SCh	BE	biennially in spring	odd	FS	EM, ERG
Pore scale reactive transport modelling		1.5	SCh	BE	biennially in spring	odd	FS	EM, ERG

red courses: new or changed courses
 ,prer": Prerequisite courses necessary

73
 Total ECTS