

Tillämpad miljögeokemi, Applied Environmental Geochemistry, 7.5 hp vårtermin 2026

Kursansvariga: Brüchert (VB)

Lärare Brüchert (VB)

Week		Date	Fr.o.m	T.o.m	Hours	Content	Teaching goal (theory)	Teaching goal (applied)	Tasks	Deadlines	U-typ	Location	Teacher	Reading
W 13	Monday	2026/03/23	09:00	10:00	1	Course outline and scope					Lecture	U 10	Brüchert	Posted material on Athena
W 13	Monday	2026/03/23	10:00	12:00	2	Geochemistry in environmental risk and impact assessment	Understand the basics of risk in environmental assessment processes	Understand the scope of the subject and the course goals; Swedish environmental law; environmental risk assessment; environmental impact assessment			Lecture	U 10	Brüchert	Posted material on Athena
W 13	Tuesday	2026/03/24	10:00	12:00	2	Geochemistry in environmental risk and impact assessment					Lecture	U 10	Brüchert	Posted material on Athena
W 13	Wednesday	2026/03/25				Risk assessment			Independent reading				Brüchert	Posted material on Athena
W 13	Thursday	2026/03/26	10:00	12:00	2	Essential geochemistry recapitulation and background	Familiarity with solution, gas, and solid component behavior in natural systems				Lecture	U 10	Brüchert	Posted material on Athena
W 13	Friday	2026/03/27	10:00	12:00	2						Lecture	U 10	Brüchert	
W 14	Monday	2026/03/30	10:00	12:00	2	Overview: Environmental geochemistry of surface environments, coasts, sediments, and groundwater	Know major compositional differences in surface Earth reservoirs and geochemical processes controlling the composition of terrestrial and aquatic natural systems				Lecture	U 10	Brüchert	Posted material on Athena
W 14	Tuesday	2026/03/31	10:00	12:00	2	Aqueous systems and water chemistry	Familiarity with equilibrium and speciation in aquatic systems				Lecture	U 10		Posted material on Athena
W 14	Wednesday	2026/04/01	13:00	16:00	3	Aqueous systems and water chemistry		Work with equilibrium diagrams to predict stability and pre-dominance fields of environmental compounds of interest	Establish predominance and speciation plots with Medusa and Minteq		Exercises	U 27	Brüchert	Posted material on Athena
W 14	Thursday	2026/04/02	09:00	12:00	3	Reaction and transport	Know important equations that describe transport, dispersion, retention, and reaction in soil, groundwater, and aquatic systems; use 1D reaction transport model	Know important equations that describe transport, dispersion, retention, and reaction in soil, groundwater, and aquatic systems; use 1D reaction transport model			Lecture	U 10		Posted material on Athena
W 14	Friday	2026/04/02				Good Friday no class								
W 15	Monday	2026/04/05				Easter Monday no class								
W 15	Tuesday	2026/04/06	10:00	12:00	2	Mine waste, mine water chemistry, and remediation	Acid mine waste production processes and rates; distribution; retention and remediation measures	Mechanisms and scale of heavy metal and acid production; remediation procedures			Lecture	U 10	Brüchert	Posted material on Athena
W 15	Wednesday	2026/04/07	10:00	12:00	2	Environmental biogeochemistry of eutrophication	Coupled biogeochemical processes				Lecture	U 10	Brüchert	Posted material on Athena
W 15	Wednesday	2026/04/08	13:00	16:00	3	Groundwater Stockholm	Walking Excursion Ulriksdal	Groundwater drinking water resources Stockholm			Excursion		Brüchert	Posted material on Athena
W 15	Thursday	2026/04/09				Data evaluation Ulriksdal drinking water					Self study			
W 15	Friday	2026/04/10	10:00	12:00	2	Environmental geochemistry of naturally occurring radionuclides and of nuclear fuel products	Chemical state and mobility	Health risk of radioactivity, radionuclide distribution, radiation levels, and mobility			Lecture	U 10	Brüchert	Posted material on Athena
W 16	Monday	2026/04/13	09:00	15:00		Preparation for exam								
W 16	Tuesday	2026/04/14	13:00	16:00		Preparation for exam								
W 16	Wednesday	2026/04/15	09:00	13:00		Exam					Exam	U 10		
W 16	Thursday	2026/04/16	10:00	12:00	2	Overview of independent project topics	Overview of topics			Choose subject for independent research topic	Lecture	U 10		
W 16	Friday	2026/04/17	10:00	12:00		Special topics in environmental geochemistry			Independent work					
W 17	Monday	2026/04/20				Excursion Görnåverket	Drinking water quality	Techniques of drinking water production			Field excursion		Brüchert	
W 17	Tuesday	2026/04/21				Independent project in environmental geochemistry			Independent work					
W 17	Wednesday	2026/04/22				Independent project in environmental geochemistry			Independent work					
W 17	Thursday	2026/04/23				Independent project in environmental geochemistry			Independent work					
W 17	Friday	2026/04/24				Independent project in environmental geochemistry			Independent work					
W 18	Monday	2026/04/27				Independent project in environmental geochemistry			Independent work	Draft presentation posted				
W 18	Tuesday	2026/04/28				Independent project in environmental geochemistry			Independent work					
W 18	Wednesday	2026/04/29	09:00	15:00	6	Independent project in environmental geochemistry			Seminar	Presentation of independent project and discussion	Seminar	U 10	Brüchert	
W 19	Sunday	2026/05/03								Final deadline submission of paper for independent project				

Assessment:

Written paper

33%

Oral presentation

25%

Active participation during discussion

9%

Final exam

33%

100%

- A >90
- B >80
- C >70
- D >60
- E >50
- F <50