

ENV 504: Remediation of Soils and Groundwater

Fall '26

Lecture: Wednesdays 8:15a-11:00a, DIA 005

Problem session: Wednesdays 11:15a-1:00p, DIA 005

Instructor: Rizlan Bernier-Latmani

TAs: Isabelle Saugy, Louisa Wolpert

W	Date	Lecture (8:15a-11a)	Problem session (11:15a-1p)	Comment
1	Sept 9 th	Introduction Contaminant Properties + case study example	Dry/wet density (hmk #0)	
2	Sept 16 th	Microbial processes and monitoring + Physicochemical monitoring	Chemical properties (hmk #1)	Groups assembled + Case study data provided
3	Sept 23 rd	Introduction to groundwater modeling (guest lecturer)	Modeling subsurface contamination (room SG0217)	Joaquin Jimenez- Martinez + Data for site to remediate provided
4	Sept 30 th	Vapor phase processes	Microbial processes and monitoring (hmk #2 + #3)	
5	Oct 7 th	Students present case study (graded)	Students present case study (graded)	Data summary due (feedback in 2 wks)
6	Oct 14 th	Adsorption	Vapor phase processes (hmk #4)	
-	Oct 21 st	<i>Semester break- no class</i>		
7	Oct 28 th	Soil treatment and washing	Adsorption (hmk #5)	
8	Nov 4 th	In-situ bioremediation	Soil treatment/washing (hmk #6)	
9	Nov 11 th	Physicochemical remediation and barriers	In-situ bioremediation (hmk #7)	Remediation strategy due (feedback in 2 wks)
10	Nov 16 th (Monday)	Optional visit to contaminated site in Valais	Tamoil contaminated site in Collombey-Muraz (VS)	Trip by chartered bus
10	Nov 18 th	Regulations and disposal	Physicochemical remediation and barriers (hmk #8)	Isabelle Romy (Osites vs Osols)
11	Nov 25 th	Final Exam		
12	Dec 2 nd	Project		
13	Dec 9 th	Project		
14	Dec 16 th	Project		
	Jan 8 th			Report due (graded)

The course is organized as a lecture during the first three 45-minute periods and a problem session during the fourth and fifth 45-minute periods.

Evaluation and grading information:

- Course materials, homework, solutions and reading assignments are available on <http://moodle.epfl.ch/course/view.php?id=7931>
- Homework will be discussed the week after the relevant content is discussed. It is not graded but serves to prepare for the exam.
- Project: Groups of 2-4 students will be asked to design a remediation strategy for a contaminated site. The following are the deliverables:
 - A summary of the data relevant to the site is due on Oct. 7th (not graded).
 - Presentation of an assigned case study on Oct. 14th (graded).
 - A selection of the remediation strategy is due on Nov. 11th (not graded).
 - A final report is due on January 8th. Please send an electronic copy by email to the instructor and wait for confirmation of receipt.
 - The oral presentation (during the exam session) consists of a 20-minute presentation followed by 10 minutes of questions for each group.
 - All assignments are due by 5p on the day of the deadline. For the report, there will be a grade penalty for tardiness. See details in remediation project description. For the non-graded assignments, no feedback will be provided if the document is turned in late.
- The final exam: will be held on Nov. 25th at 9:15a and will last 3 hours. It will cover the contents of the entire course.
- Grade distribution:
60% Project (10% case study, 20% oral, and 30% report)
40% Final exam
- Office Hours: by appointment only.