

ENV 504: Remediation of Soils and Groundwater

Fall '25

Lecture: Wednesdays 8:15a-10:00a, DIA 005

Problem session: Wednesdays 10:15a-12:00p, DIA 005

Instructor: Rizlan Bernier-Latmani

TA: Marion Calvo

W	Date	Lecture (8:15a-10a)	Problem session (10:15a-12p)	Comment
1	Sept 10	Introduction Contaminant Properties	Dry/wet density (hmwk #0)	
2	Sept 17 th	Microbial processes and monitoring	Chemical properties (hmwk #1)	Groups assembled
3	Sept 24 th	Introduction to groundwater modeling (Jimenez- Martinez)	Modeling subsurface contamination (room SG0217)	Joaquin Jimenez- Martinez- Data for site to remediate provided
4	Oct 1 st	Physicochemical monitoring + case study example	Microbial processes and monitoring (hmwk #2)	Case study data provided
5	Oct 8 th	Vapor phase processes	Physicochemical monitoring (hmwk #3)	Data summary due (feedback in 2 wks)
6	Oct 15 th	Students present case study (graded)	Students present case study (graded)	Camille Rolland
-	Oct 22 nd	<i>Semester break- no class</i>		
7	Oct 29 th	Adsorption	Vapor phase processes (hmwk #4)	
8	Nov 5 th	Soil treatment and washing	Adsorption (hmwk #5)	
9	Nov 12 th	In-situ bioremediation	Soil treatment/washing (hmwk #6)	Remediation strategy due (feedback in 2 wks)
10	Nov 19 th	Physicochemical remediation and barriers	In-situ bioremediation (hmwk #7)	
11	Nov 26 th	Regulations and disposal	Physicochemical remediation and barriers (hmwk #8)	
12	Dec 3 rd	Final Exam		
13	Dec 10 th	Project		
14	Dec 17 th	Project		
	Jan 9 th			Report due (graded)

The course is organized as a lecture during the first two 45-minute periods and a problem session during the third and fourth 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. 8th (not graded).
 - Presentation of an assigned case study on Oct. 15th (graded).
 - A selection of the remediation strategy is due on Nov. 12th (not graded).
 - A final report is due on January 9th. 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 Dec. 3rd 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.