- Faculté des sciences
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Contaminants Hydrogeology (3GH2213)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en hydrogéologie et géothermie	**Cours: 28 pg**	**Voir ci-dessous**	3

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

Période d'enseignement:

- Semestre Printemps

Equipe enseignante

Daniel Hunkeler

Contenu

Overview of common chemicals compounds in groundwater.
Discussion of the major processes that control the migration and transformation of organic and inorganic compounds in the subsurface.
Discussion of site caracterization, sampling and analytical methods.
Presentation of Swiss legislation on the mangament of contaminated sites.
Comparison of different method to evaluate the risks associated with groundwater contamination.
Overview of methods for grouondwater remediation.

Forme de l'évaluation

CA graded
Written exam (1.5h) on a date to be defined at the beginning of the course. The exam includes several questions on fundamental processes that control the fate of organic and inorganic contaminants. Some questions include some calculations. In addition, the students have to outline a conceptual scheme of a contaminated site.
Repeat : Written test (1.5h) during exam session following the course, coordinated with professor. The repeat exam includes the same elements as original exam.

Documentation

Power Point presentation.
Script explaining major processes that control the behavior of organic contaminants.
Documentation of case study.

Pré-requis

Groundwater chemistry and microbiology

Forme de l'enseignement

Lectures and exercises
Case studies linking the different parts of the course:
- Proposal of site investigation strategy
- Risk assessment for a polluted site to evaluate need for monitoring/remediation
- Proposal of remediation method