

- Faculté des sciences
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Urban hydrogeology (3GH2187)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en hydrogéologie et géothermie (*)	Cours: 20 pg	Voir ci-dessous	5

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

Période d'enseignement:

- Semestre Automne

Equipe enseignante:

Mario Schirmer

Objectifs:

The course will provide an overview on urban hydrogeology. Similarities and differences of hydrogeological investigation techniques in comparison to conventional hydrogeology will be discussed. Focus will be given on the challenges to work in cities and other sites with complex subsurface infrastructure.

Contenu:

- Introduction to urban hydrogeology: urban water fluxes, water balance, urban contamination and micropollutants, flux calculations, surface water ↔ groundwater interactions
- discussion of method to calculate groundwater travel times between rivers and monitoring wells
- case study of hydrocarbon accident with site investigation and remediation technologies
- exercises

Forme de l'évaluation:

Course assignments.

In case of failure at the course assignments, the students will do an oral test of 15 minutes on a date defined by the teacher.

Documentation:

- course notes as handouts
- solutions to all exercises available on request

Pré-requis:

basic calculus and physics
basic understanding of hydrogeological investigation techniques
basic geology

Forme de l'enseignement:

Theory and corresponding exercises are presented and solved during the course

(*) Cette matière est combinée avec d'autres matières pour l'évaluation