

- Faculté des sciences
- [www.unine.ch/sciences](http://www.unine.ch/sciences)

### Urban hydrogeology (3GH2218)

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

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

#### Période d'enseignement:

- Semestre Automne

#### Contenu

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.

The course contains the following parts:

- Introduction to urban hydrogeology: urban water fluxes, water balance, urban contamination and micropollutants, flux calculations, surface water – groundwater interactions
- discussion of method to calculate recharge, solute distribution coefficients and solute concentrations and fluxes
- integral groundwater monitoring methods including flux calculations, integral pumping tests and passive sampling technologies
- case studies to site investigation and monitoring technologies
- exercises
- student presentations

#### Forme de l'évaluation

It is a continuous evaluation with a weighting of 40 % course assignments, 40 % take home assignments and 20% student presentations

#### Modalités de rattrapage

In case of failure at the course assignments and presentation, the students will do an oral test of 15 minutes on a date defined by the teacher, following the official notification of the results of the first attempt.

#### Documentation

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