

- Faculté des sciences
- www.unine.ch/sciences

Hydrochemical and microbial processes (3GH2166)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en hydrogéologie et géothermie	Cours: 40 pg	Voir ci-dessous	4

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

Période d'enseignement:

- Semestre Automne

Equipe enseignante

Hunkeler Daniel
Wirth Stefanie
Junier Pillar

Contenu

Introduction

- Units, typical composition of natural waters

Processes that control chemical composition of groundwater

- Dissolution of gas
- Acid-base reactions
- Dissolution of minerals (carbonates, silicates)
- Surface processes: Sorption and ion exchange
- Interaction with natural organic compounds
- Redox processes

Methods to sample and analyze groundwater

Tools to evaluate hydrochemical data

- PHREEQC
- AQUACHEM

Case studies that illustrate factors that control chemistry of groundwater use of hydrochemistry to investigate function of groundwater flow systems

Forme de l'évaluation

Written exam of 2h duration.

Documentation

PPT handout
Script describing the key hydrochemical processes

Forme de l'enseignement

Lectures, case studies, computer labs.