

001-2-0022 2 credits Stable Isotope Application in Contaminant Hydrology

Lectures (hrs/week)	Exercise (hrs/week)	Laboratory	Field Trip
2			

Pre-requisites:

Undergraduate degree in sciences (e.g. environment, geology, biology etc.). A basic course in environmental application of stable isotopes as 206-2-3951 or other.

Course description

The course provides the students with technical knowledge and practical experience in stable isotope analysis of organic compounds. The students will get familiar with $\delta^{13}\text{C}$ analysis by GC/IRMS and EA/IRMS and $\delta^{37}\text{Cl}$ analysis of chlorinated ethylenes by GC/MS. The students will get acquainted with the different components of the instruments, injection techniques, linearity and mass dependency of isotope measurements. Lab experiments will be carried out by the students with a selected target compound. These experiments will provide the students with practical experience in isotope analysis methods. The target compound will also be sampled in the field and analyzed isotopically by the students. The results of the field campaign will be interpreted by the students in terms of the environmental fate of the compound.

Course requirements

2 lab reports 30%
1 field trip report 10%
Final exam 60%

Literature: References will be given during the course

Lecturer: Anat Bernstein