

RESEARCH CLINIC

General information

Supervisor:	Peter Houben
Title of clinic:	Soil microbiological testing - lab practical Stratigraphie
Number of students:	One or two. A pair may be working hand-in-hand.
Major (<i>if applicable and approved by the Major Convener</i>):	EES, GPH
(Pre)requisites (<i>if applicable</i>):	Earth System Science (100 level) Experience with lab analytical procedures, passion and patience for laboratory work. You are a self-motivated, single-handed, independently thinking student with an ambition to learn much more about the topic domain, lab methods, and lab skills.

Research context

Background: Relationships between classic physical and chemical soil parameters and the residing soil microbiome are a developing field in soil sciences.

In particular, it is the microbes which qualitatively and quantitatively control major soil functions such as plant growth (fertility, food provisioning) and climate regulation (via carbon sequestration).

If you are a 2nd year student, you may use the methodology and results to develop the topic towards a research BSc thesis.

Students' tasks and activities

Please specify the tasks and activities, timeline, the learning aims and how they are assessed, i.e. what the deliverables will be.

(A) Run series of microbiological tests on soil samples in the LUC Science Lab: testing microbial activity, biomass, and metabolic potential, further tests of particle-size analysis, pH testing, bulk density, porosity (60%)

(B) Editing data tables and pertinent diagrams, graphs, etc. (20%);

(C) Scientific reporting (20%), self reflection report

Activities may include to travel to the a field site to sample soil profiles (2 days).

The research clinic may be combined with the "Soils, Sediments, Society" course in April 2020 to benefit from synergetic effects.