RESEARCH CLINIC

General information

Supervisor:	Peter Houben
Title of clinic:	Sampling soil materials and testing in the LUC Science Lab.
Number of students:	One. Activities may be combined and coordinated with the "Soil microbial testing research clinic".
Major *(if applicable and approved by the Major Convener)*:	EES, GPH
(Pre)requisites *(if applicable)*:	Earth System Science (100 level) Experience with lab analytical procedures

Research context

The area around Gerolstein in the Eifel Mts. (300km south of The Hague) accommodates the most important types of soil that characterize temperate to boreal environments. Within a range of 10km soils can be found representing more than 80% of soils occurring across Europe's soilscape. This unique inventory of soils has developed thanks to a combination of a rare geological configuration, ice-age landscape evolution, and Holocene land uses. This has made the area ideal for soil education.
At present about 30 soil pits are accessible for studying, however, most of the sites still lack a scientifically based standard description. The goal of the research clinic is to add to the documentation of this unique inventory, pit by pit.
Student work includes to travel to the area to sample soil profiles (2 days), subsequent sample pre-treatment, particle-size analysis, pH testing, colour determination, and sample pre-treatment for external lab analyses (C, N, CEC). The works are to be reported on by providing data tables and pertinent diagrams, graphs, etc.
Optional: Activities may be combined with participating in the 300 level Soils course in b4.

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) Short review paper: Soil types and groups of the study area, overview of analytical methods (2 weeks, 2000 words; ASMT: 25%)
(B) Soil sampling (weekend trip in March) - Lab activities, 6 weeks (sample pretreatment, analyses) - lab protocols, report - ASMT: 50%
(C) Mid of block4 - end: Evaluation and reflection report (ASMT, 25%)