

Course Specifications

Valid as from the academic year 2019-2020

Soil Biogeochemistry of Agroecosystems (Lab. Practicum) (I002494)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Course size (nominal values; actual values may depend on programme)
Credits 3.0 Study time 90 h Contact hrs 30.0 h

Course offerings in academic year 2020-2021

A (semester 1) English Gent

Lecturers in academic year 2020-2021

Dippold, Michaela GOTTIN lecturer-in-charge

Offered in the following programmes in 2020-2021	crdts	offering
International Master of Science in Soils and Global Change (main subject Soil Biogeochemistry and Global Change)	3	A

Teaching languages

English

Keywords

Position of the course

Contents

This module builds on the lecture and seminar course given during the semester course and will deepen the biogeochemical experience by applying a set of methods in a laboratory course. Students will be introduced into the work in a well-equipped, modern biogeochemical laboratory with application of stable and radionuclide isotopes in various studies. One isotope application based experiment will be performed as well as one biomarker extraction protocol will be used. The course will cover the complete set of steps of a biogeochemical study, from setting up an experiment, performing it, analyzing the data to presenting the outcome.

Initial competences

Basics in soil science and biology and chemistry

Final competences

- * Learning the methods to determine the impact of agricultural management on C-, N- and P-cycles
- * Application of radio- and stable isotopes in experiments (natural abundance versus tracer approaches, required references, data evaluation, etc.)
- * Use of biomarkers to assess organic matter composition and microbial community composition (i.e. work with complex biogeochemical extraction, purification and derivatization protocols).
- * Using advanced instrumentation (mass spectrometers, scintillation counters, etc. on their own).

Clear target of this one week lab course will be to get used to work in a biogeochemical laboratory with cutting-edge techniques using stable and radio isotopes as well as complex biogeochemical method protocols.

Conditions for credit contract

This course unit cannot be taken via a credit contract

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Extra information on the teaching methods

The module consists of a one week intensive lab course followed by a short period of data evaluation.

Learning materials and price

References

Course content-related study coaching

Evaluation methods

Examination methods in case of periodic evaluation during the first examination period

Oral examination

Examination methods in case of periodic evaluation during the second examination period

Oral examination

Examination methods in case of permanent evaluation

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible

Calculation of the examination mark