Linnæus University

Course syllabus

Faculty Board of Science and Engineering
School of Natural Sciences

4MX009 Analyser av insektsrester från kvartära avlagringar, 30 högskolepoäng

Analyses of insect remains in Quaternary deposits, 30 credits

Main field of study
Environmental Science, Biology

Subject Group
Environmental Science

Level of classification
Second Level

Progression
A1N

Date of Ratification
Approved by the Board of the School of Natural Sciences 2011-05-02

The course syllabus is valid from autumn semester 2011

Prerequisites
Holder of a bachelor (3 years, 180 ECTS) higher education degree in any of the subject areas: biology, geology, physical geography or environmental science.

Expected learning outcomes

Upon course completion individual students will:
- Manage and understand selection of suitable sites for insect analyses.
- Demonstrate the ability to carry out fieldwork, processing samples, preparation of insect remains and identification of subfossil specimens.
- Interpret and analyze Quaternary insect records.
- Use BugsCEP and be able to make climate reconstructions by using the MCR method.
- Communicate key concepts in Quaternary entomology.
- Demonstrate the ability to engage in teamwork activities and perform collaborative work.

Content

- Fieldwork at a Quaternary site in order to obtain material for insect analysis, including surveys with coring equipments and final sampling.
- Subsampling of cores, processing samples and extraction of insect remains.
- Sorting subfossil insect material under a binocular microscope and preparation of insect remains.
- Identification of insect remains, Coleoptera in particular, by using reference collections and keys for modern specimens.
- Case study of a Quaternary insect record.

- Compilation of biological and ecological information for taxa from entomological literature.
- The Bugs Coleopteran Ecology Package (BugsCEP).
- Climate reconstructions by using the Mutual Climatic Range method (MCR).
- Interpretation and presentation of Coleoptera records.
- Advances in studies of interglacial, stadial and interstadial insect assemblages.
- Insects as indicators for ecosystem changes.
- Insect analyses in archaeological context.

Type of Instruction

The teaching is carried out by supervised self-tuition, including field and laboratory exercises and literature studies.

Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).
Examination is based on an oral and a written presentation of the project work, active participation in the course activities. Examination criteria to pass the course follow the intended learning outcomes.

Course Evaluation

Upon completion, the course will be evaluated by filling out the evaluation form. The results of the individual evaluations are turned into a summary report that will be kept in the department administrational archives. The outcome of the evaluation of the previous year, as well as possible measures taken, will be discussed with the individual responsible for the educational program, as well as with incoming students at the start of the next course.

Required Reading and Additional Study Material

Obligatory

Elias, S.A. 2009. Advances in Quaternary Entomology. Elsevier ISBN 13: 978-0-444-53424-8.
Chapters about BEETLE RECORDS in Encyclopedia of Quaternary Science, ed. Elias, S.A. (2007), pp. 153-286. Elsevier ISBN 13: 978-0-444-51919-1.