



P000106, Forest damage – Monitoring and environmental assessment, 3.5 Hp

Syllabus

Finalized by: Finalized by: FUN, 2023-11-07, 2023-11-07

Level within study regulation:

Third cycle

Grading scale:

Pass / Failed

Course language:

Swedish

Entry requirements:

The course is intended for PhD students within and outside SLU and from a variety of relevant disciplines. A Master's degree in forestry, biology, geography, environmental sciences, or a related field is required. Knowledge of English is required in order to be able to read material, contribute to discussions and complete written assignments.

Objectives:

After completing the course, the students will be able to:

Have a general understanding of environmental assessment

Understand basic concepts in setting up monitoring programs, including:

- Requirements based on the management goals
- Basic monitoring methods and sampling designs

- The concepts of accuracy, precision and statistical power
- Spatial and temporal resolution
- Uncertainty, random vs. systematic variation
- Procedures for quality assurance and quality control

Have basic knowledge of specific monitoring methods, including their potential use for monitoring incidence of damage, damaging agents of different kinds, and damage risks:

- Field surveying
- Remote sensing
- Environmental DNA
- Camera traps
- AI-based species recognition
- Spore and insect trapping
- Tracking of ungulates

Content:

The objective of the course is to provide the students with a basic understanding of environmental assessments and how to design programs for monitoring forest damage, the incidence of damaging agents and the risk of damage. The course combines theoretical lectures, practical demonstrations of monitoring and students will critically evaluate the monitoring methods they use in their respective projects.

The course starts with an introduction to the topic online followed by a weekly, digital journal club, providing the students with knowledge on basic concepts and their application to monitoring in management. Basic literature and scientific papers will be read and discussed. During the on-site week, lectures on monitoring and

sampling theory will be combined with lectures on specific methods. Theory will be combined with sampling exercises in the field and students will evaluate methods applied in their own doctoral projects.

Modes of assessment:

Examination is conducted through assessment of active participation in the course's journal club, seminar discussions and oral presentation. Attendance during on-site studies is mandatory. The grading scale is pass or fail. - If a student has failed an examination, the examiner has the right to issue supplementary assignments. This applies if it is possible and there are grounds to do so.

- The examiner can provide an adapted assessment to students entitled to study support for students with disabilities following a decision by the university. Examiners may also issue an adapted examination or provide an alternative way for the students to take the exam.
- If this syllabus is withdrawn, SLU may introduce transitional provisions for examining students admitted based on this syllabus and who have not yet passed the course.
- For the assessment of an independent project (degree project), the examiner may also allow a student to add supplemental information after the deadline for submission. Read more in the Education Planning and Administration Handbook.

Organisation:

Department of Wildlife, Fish, & Environmental Studies

Supplementary information**Other information:**

- The right to participate in teaching and/or supervision only applies for the course instance the student was admitted to and registered on.
- If there are special reasons, students are entitled to participate in components with compulsory attendance when the course is given again. Read more in the Education Planning and Administration Handbook.