Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Syllabus

BI1332.1 Forest History - Human utilisation and vegetation dynamics, 15.0 credits

Forest History - Human utilisation and vegetation dynamics

The course is given Forest Science - Master´s Programme and Forest Ecology and Sustainable Management - mastersprogramme

Version 1 in Slukurs. Corresponds to version 1 in Ladok

Syllabus approved

26 September 2018

The version applies to students admitted from autumn 2019

The version is not a module version

Subjects

Biology/Forest science

Education cycle

Second cycle

Modules

Title	Code	Credits
Single module	0101	15.0

Advanced study in the main field

Second cycle, only first-cycle courses as entry requirements (A1N)

Grading scale

5:Pass with Distinction, 4:Pass with Credit, 3:Pass, U:Fail
The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

English

Prior knowledge

The equivalent of 120 credits at basic level including
- 60 credits in Forest science or
- 60 credits in Forest management or
- 60 credits in Biology or
- 60 credits in Soil science or
- 60 credits in Environmental sciences or
- 60 credits in Natural resource management or
- 60 credits in Natural geography

and,

English 6

Objectives

The overarching aim of this course is to provide an in-depth understanding of of the vegetation dynamics of forests in northern Europe in a millennial time perspective and a fundamental understanding of how people have utilized forests as a resource for fuel, grazing, food, and industrial raw materials and as a religious space, with a focus on recent centuries. This knowledge will also be put in a broader, international context to provide an overview of the past global vegetation development and comparisons of human use of other forest ecosystems in the world. During this course, students will become familiar with forest history research methods (historical records and paleoecological methods). Students will apply these methods in the field and recognize the interactions between people and forest ecosystems in an historical perspective. Key concepts include historical climate change, legacies of human forest use, and natural forest dynamics and transitions. This course will also provide useful skills on critical reading and scientific writing.

After completing the course the student should be able to: :

- Describe the vegetation development and climatic variations in northern European boreal zone during the Holocene and place the current state of the forest ecosystems in a historical perspective.

- Identify and evaluate the main drivers of ecosystem change that have shaped the boreal forest during the last few centuries.

- Use forest history methods in practice—pollen analysis, dendrochronology, and historical records— and summarize the potential and limitations of these methods.

- Identify traces related to Sami, agrarian, pre-industrial, and industrial uses in today's forests (utilizing appropriate forest history tools), and explore ways to apply this knowledge to the relevant laws which protect the historical legacy of these traces.

- Account for the historical development of silvicultural methods in boreal forestry and how they have shaped current forests.

- Apply theories and knowledge of forest history to current forest management, biodiversity management, and management of the cultural heritage

- Synthesize and present gained knowledge orally and in writing.

Content

This course is designed to introduce the students to a range of historical methods (e.g. dendrochronology, pollen analysis, and historical records) and will involve lectures, independent work in the field and the laboratory, as well as group work on written and oral reports from field projects and interviews. Training in scientific reading and writing will be provided at the start of the course and students will practice these skills during individual assignments and group projects. Students will also practice interview techniques for interpreting recent forest history.

The course consists of six parts:
1. A field component. In the field, the students will become familiar with forest inventory techniques and forest history methods as well as the forest history of Sami, and pre-industrial, and industrial periods. Most of the work will be conducted in groups; and the students will practice forest history inventory methods, conduct archaeological inventories of cultural remains, collect samples for dendrochronological analysis, and formulate a specific forest history research project.
2. Long-term boreal forest and vegetation history. This part of the course will cover the vegetation development (including climatic variations) during the Holocene, and the interconnection between people and forests over millenia. It will consist of a series of lectures and reading assignments. In the laboratory, students will explore ways to collect historical information in laboratory settings through practical

dendrochronology and pollen analysis work.
3. Land use during the last 1000 years in the boreal forest.During the third part of the course, Sami land use in northern Europe, agricultural forest use (grazing, land use changes), pre-industrial forest use (potash, tar, charcoal), and the use of historical records to reconstruct history will be covered. This section will be conducted as lectures, reading assignments, and a lab practical on historical records.
4. The history of forestry and forest management.Through lectures and active participation in seminars, students will learn about the German roots of Swedish forestry, early forest management, "modern" forest management, timber-frontiers in Sweden and in North America, forest industrial development (including floating of timber), social dimension of forest work, gender issues in forest history, and historical and current debates in forest management.
5. Conservation, cultural legacies, and management - forest history as a tool for today. This component will utilize lectures and student seminars to discuss conservation and biodiversity, protection of the cultural heritage, baselines, and historical range of variation.
6. Synthesis. At the end of the course students will be asked to synthesize their knowledge achieved through fieldwork and laboratory work and to present it in the form of written reports.

Formats and requirements for examination

Approved participation in compulsory seminars and approved completion of oral and written assignments.

- If the student fails a test, the examiner may give the student a supplementary assignment, provided this is possible and there is reason to do so.
- If the student has been granted special educational support because of a disability, the examiner has the right to offer the student an adapted test, or provide an alternative assessment.
- If changes are made to this course syllabus, or if the course is closed, SLU shall decide on transitional rules for examination of students admitted under this syllabus but who have not yet passed the course.
- For the examination of a degree project (independent project), the examiner may also allow the student to add supplemental information after the deadline. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

Additional information

This course is given within the Masters Program in Forest Ecology and Sustainable Management.

SLU is environmentally certified according to ISO 14001. A large part of our courses cover knowledge and skills that contribute positively to the environment. To further strengthen this, we have specific environmental goals for the education. Students are
welcome to suggest actions regarding the course's content and implementation that lead
to improvements for the environment. For more information, see webpage www.slu.se.

- The right to take part in teaching and/or supervision only applies to the course date to which the student has been admitted and registered on.
- If there are special reasons, the student may take part in course components that require compulsory attendance at a later date. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

Responsible department

Department of Forest Ecology and Management

Supplementary Information

Finalized by: Programnämnden för utbildning inom skog (PN - S)
Biology Area: Ecology
Replacement course: SG0179.1 , SG0180.1