



Natural resource economics

Syllabus approved: 2017-07-07

Number of credits: 2 ECTS

Subject: Economics

Part of research school: ECOS, Ecology and society

Education cycle: Third

Marking scale: Passed / Failed

Prerequisites: Basic microeconomics (or equivalent)

Objective: The aim of the course is to give the student an introduction to basic welfare economics and market failures, as well as theories and methods related to the economic use of renewable and non-renewable natural resources.

Upon completion of the course the student should be able to:

- Explain and apply fundamental welfare theory concepts in economic applications.
- Explain the meaning of various market failures as well as the state's ability to correct these.
- Explain the conditions for public goods and service production.
- Account for concepts and theories regarding the economically optimal use of different types of renewable and non-renewable natural resources, as well as identify and explain various causes of misuse, as well as apply economic theory for analysis of natural resource problems.
- Show comprehensive knowledge of relevant empirical methods for valuing non-market priced goods.

The course consists of lectures and self study as the course aims at providing theoretical understanding of the concept of natural resource economics.

Content: The course starts with an introduction to welfare economics and market failures. This includes an exposition of the economic concept of goods, including private and public goods.

The course then uses basic capital theory to discuss forest economics. Here the basic economic theories about wood production are introduced. The course continues with an orientation on economic concepts and theories regarding other types of renewable (e.g. fish) and non-renewable (e.g. oil) natural resources. Particular attention is given to the way in which economic theory is used to analyze the utilization of these types of natural resources.

The importance of ownership forms for management is studied (e.g. tragedy of the commons), in particular to gain insight into and understanding why different forms of misuse can occur. So-called ecosystem services usually lack a market price. Also many so-called public goods (e.g. air) lack market prices. The course is therefore concluded with an orientation on relevant empirical methods for valuing non-marketable goods.

Preliminary time schedule:

Day (working days) 1-6:

9.00 – 12.00 Lecture

13.00 – 16.00 Self-study of literature

Day 7:

9.00 – 16.00 Self-study preparation for exam

Day 8:

9.00 – 12.00 Exam

Literature:

Field, B. (2015): *Natural Resource Economics*. Third ed. Waveland. Chapters 8-9, 12-19, pp. 167-193, 221-403.

Exercise material is provided by the teacher in class.

Examination: Approved written exam

Additional information: The Department reserves the right to cancel the course if there are not more than 5 students who have applied for the course. There is no tuition fee. The student is responsible for any housing and travel costs. Students belonging to the ECOS research school have priority to the course.

Responsible department: Department of forest economics

Location: Umeå