



Environmental Economics Profile Course

Miljöekonomisk profilkurs

30.0 credits

Course Code: 2NE073

Established: 15 July 2015

Established by: Rector of Umeå School of Business and Economics

Syllabus valid from: 2015, week 31

Responsible Department: Department of Economics

SCB Subject: Economics

Main Field of Study and progress level: Economics: second cycle, has second-cycle course/s as entry requirements (A1F)

Grading System: VG Pass with distinction , G Pass, U Fail

Level of Education: Advanced level

Requirements

Mathematics for Economists I, 7.5ECTS

Econometrics I, 7.5ECTS

Microeconomic Analysis I, 7.5ECTS

Learning Outcomes

Module 1: Energy Economics 7.5ECTS

After completion of this module, students should:

- Understand and interpret the research literature on energy economic issues
- Be able to theoretically and empirically describe the demand and supply of energy, and how these interact in a market.
- Be able to analyze the effects of energy and environmental policies on the supply and demand of different types of energy
- Have a good understanding of the need for government policies in various energy markets, and to analyze the possibilities and limitations of various policy measures.
- Have the ability to report and present the result of its own analyzes, both in writing and orally in a seminar

Module 2: Natural Resource Economics 7.5ECTS

After completion of this module, students should:

- Be able to read and interpret advanced literature on resource economic issues,
- Be able to apply advanced economic theory to analyze typical natural resource management

problems,

- Be able to report and present their findings in written form and in a seminar,
- Have insights about the need for government policy measures in different resource economic areas and the possibilities and limitations of different policy measures.

Module 3: Environmental Economics and Policy 7.5ECTS

After completion of this module, students should:

- Have a thorough knowledge of advance theories of externalities and how to internalize these
- Have a deeper understanding of the relationship between economic theory and choice of methods to reduce negative environmental impact
- Have an understanding of important advanced methods used to value environmental goods, and their strengths and limitations
- Be able to analyze current environmental policy issues based on relevant theories in environmental and natural resource economics.

Module 4: Applied Production and Productivity Analysis 7,5ECTS

After completion of this module, students should:

- Have a thorough and advanced knowledge of theories related to the production economy, productivity and efficiency measurement.
- Have a deeper understanding of the relationship between economic theory and choice of methods to measure productivity and efficiency.
- Have an understanding of advanced key methods used, such as the DEA and SFA, and their strengths and limitations.
- Be able to conduct sophisticated analysis of empirical production data, and with relevant theories and methods generate productivity and efficiency calculations.

Contents

The course consists of four modules, each covering 7.5ECTS: Energy Economics, Natural Resource Economics, Environmental Economics and Applied Production and Productivity Analysis

Module 1: Energy Economics, 7.5ECTS

The module aims to provide a comprehensive understanding of energy markets, as well as knowledge of how to analyze them and how they interact with the rest of the economy. A further aim of is to give students advanced tools to analyze how energy and environmental policies affect the demand and supply of different types of energy. The module will address a number of different types of issues related to demand and supply of energy. For example, one may ask how climate policy affects the energy markets. The literature that will be used consists mainly of a collection of separate articles attached to respective issue.

Module 2: Natural resource Economics, 7.5ECTS

The module contains theoretical studies on how microeconomics is used for analyzing natural resource problems. Theories on sustainable and efficient use of renewable resources will be presented. Attention will also be on theories on optimal use of non-renewable resources. The uses of many natural resources are regulated through some form of policy measure. A part of the module is, therefore, devoted to theories on market and regulation failures and the possibilities and limitations of different policy measures when it comes to correcting these failures. The module also involves a small course project on a chosen natural resource problem, which should be presented in written form and in a seminar.

Module 3: Environmental Economics, 7.5ECTS

The course aims to provide a deeper and advanced understanding of environmental economics and policy issues related to the environment and natural resources. The course also aims to provide knowledge to analyze and understand the economic impact of environmental policies. Furthermore, the course aims to provide advanced knowledge of both theoretical and empirical tools in order to make environmental economic analysis. The module is primarily conducted in seminars with mandatory attendance at seminars in environmental and natural resource economics. The examination of the module is in the form of seminars and report writing.

Module 4: Applied production and productivity analysis, 7.5ECTS

The course aims to provide understanding of advanced production theory analysis in general and the efficiency and productivity analysis in particular. The course begins with a review of advanced production theory. Then we look at productivity and efficiency measurement from a conceptual perspective (set-representation, distance functions, etc.). Furthermore the module covers index theory and its link to productivity and efficiency measurement. Special focus will be on Data Envelopment Analysis (DEA) and Stochastic Frontier Analysis (SFA), the two most common methods of empirical applications in productivity and efficiency measurement. The examination consists of assignments and computer exercises.

Instruction

The education will take the form of lectures, excercises and seminars.

Examination

The examination consist of written examination in the end of each module, assignments and seminars. The result from the mid-module exams, assignments and seminars are only valid during the current semester.

A second exam opportunity is always offered within a short time span after the regular exam date for those students not achieving a Pass. The subsequent exam opportunity is either the re-take opportunity the week before the fall semester or the next regular exam date.

The following grading system will be used: Pass with Distinction (Väl Godkänd) Pass (Godkänd) Fail (Underkänd). Grades on the course are awarded when the student has passed all examinations and compulsory course elements on all four modules. The grade Pass with Distinction on the course requires the grade Pass with Distinction on at least three out of four modules.

There is normally not possible to make additional examinations to reach a higher grade. Exceptions can be made for a student with the grade Fail on any of the examinations if the examiner (not the lecturer) finds this appropriate. The task must be a minor undertaking, closely related to the learning outcome not reached, and performed in close proximity to the original examination.

When a student has failed an examination on two occasions, he or she has a right to have another grading teacher. A written request for an alternative examiner should be handed to the Dean of the Business School no later than two weeks before the next examination opportunity.

Credit transfer

Academic credit transfers are according to the University credit transfer regulations.

Course Literature

The reading list is missing. For further information, please contact the responsible department.