Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PFS0150 A course on Behaviour Environmental Economics, 7.5 credits

Syllabus approved

2018-02-14

Subjects

Economy

Education cycle

Third cycle

Grading scale

Pass / Failed
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 course is specifically aimed at PhD students within the field of social sciences in particular economics. Knowledge in basic microeconomics and good knowledge in English is vital to be able to follow the course.

While applying for the course, each student will be asked to write a max. 300 words text describing their current work and research interests. The text will be used in selection process and if accepted to allocate the student's seminar to the related

section. This short essay will help the course organizers to understand students' research and learning interests etc. Note that the accepted students who does not have their own work to present will be asked to select a paper from the reading list to present. This option is especially set for the Master level students to enable them to apply for the course. Capacity is limited to 25 students.

Objective, including learning outcomes

The course aims to provide understanding of topics in environmental and resource economics from a behavioural economics perspective. The course aims at an interdisciplinary audience, welcoming students not only from core social sciences but also from management of natural resources, forests being one example. Students will learn how to apply the theory and the methods such as field and laboratory experiments to the environmental issues to discover how individuals actually behave, and how normative theories and frameworks fail to capture the actual behaviour. In more detail the learning outcomes are to gain:
- Background about the behavioral economics, relevant theoretical advances, behavioral biases, experimental methods.
- General overview of the "non-behavioral economics": existing policy tools, theoretical models in brief.
- An in-depth understanding of the adaptation and mitigation strategies under ambiguity using public goods games, weakest-link public goods game and coordination game.
- An in-depth understanding of the cooperation in (dynamic) coordination games, auction mechanisms, provision of environmental conversation by means of payments for ecosystem services, technology adaptation subsidies and the role of leadership. Focus will be on instruments that can be used to improve coordination and cooperation.
- Framed Field Experiments and resource management situations such as forestry and possible policy conclusions.

Learning Outcomes:
- After having completed the course, the student should be able to gain skills and knowledge about the following:
- Understand the experimental methods and procedures that the behavioral economics employ.
- Students will have the knowledge of how to connect behavioral economics and environmental economics.
- Students will learn about the essential procedures for laboratory and field experiments related to environmental economics, previous examples and also the results of them.

- Students will be able to analyze and describe the related literature i.e., the environmental economics studies using behavioral perspective.

Content

The course includes a blend of lectures, group discussions, practical exercises, and home-assignments.
Behavioral Economics integrates insights from psychology into economic thinking. It attempts to increase the explanatory power of economic models by incorporating a better understanding of human behavior and its underlying factors. The knowledge provided within this course is important for researchers, future managers, analysts, and consultants and policy makers, because it is about understanding how actually people (customers, competitors, colleagues, and themselves) make decisions regarding the environmental economics, since the neoclassical economics fails to portray the behavior in a realist way. This course introduces the tools and perspective from a behavioral economics perspective and how to use them in environmental economics.

The first day of the course sets fundamentals about behavioral economics via a detailed introduction about the behavioral biases and examples of experiments. The first day also introduces some specific illustrations and real-world examples such as individual consumption and extraction decisions for how the postulated simple rational behavior can differ in reality from expectations. Attention will be drawn to the challenges involved in identifying deviations from basic rationality assumption and "conditioning factors" involved in many contexts.

Second and the third day focusses on laboratory experiments and the third day also includes guest speakers on relevant topics such as conspicuous consumption. Overall, these two days will provide information to students about how they can use laboratory experiments to investigate the environmental economics issues. Prof. Eline van der Heijden's lecture starts with a short introduction to several types of environmental problems and briefly reviews how some of these environmental social dilemmas have been studied experimentally and discusses some recent contributions, both of lab and field experiments. Then, discussing some specific topics in more detail: cooperation in (dynamic) coordination games, provision of environmental conversation by means of payments for ecosystem services, the role of leadership. Focus is on instruments that can be used to improve coordination and cooperation. Third day includes a lecture beginning with a short introduction to the concept of Equilibrium under Ambiguity (EUA). Then the lecture proceeds to apply the equilibrium concept to analyze games that simulate the effects of climate change in various choice situations: Mitigation: We will firstly model the ambiguity countries

face while coordinating in a manner that would mitigate harmful emissions that cause climate change. Adaptation: Next we will study the effects of ambiguity on individuals deciding whether to invest in infrastructure that will adapt to the harmful effects of climate change, such that they can prevent losses due to climate change catastrophes. Insurance: Finally, alongside mitigation and adaptation mechanisms, we must consider insuring optimally in the face of ambiguous climate change catastrophes that can be viewed as low probability/high impact events.

The fourth day focusses on Framed Field Experiments (FFEs): Since 2000 (Cardenas), a series of FFEs on natural resource use and management in developing countries have been conducted. FFEs have, compared to lab experiments, a realistic task (e.g. harvesting of trees) with a relevant population (e.g. real forest users) and conducted in the participants' natural environment. The experiments are usually framed as a common pool resource game (CPR), creating a social dilemma between individual collective payoffs. The lecture aims to, first, give a broad overview of FFEs, some typical resource management situations, and possible policies. Second, it will summarize the experimental studies and the main (policy) conclusions that can be drawn from these. Below is the outline of the lecture.

The course starts with a self-study period of course material, continues with an intensive week of lectures and is finalized with an individual essay. During the pre-lecture period, students will work on also preparing their presentations and during the lecture they will present to get feedback about their work from the lecturers and the other students. Each day of the five day lecture period composed of 2 parts: In the first half of the day, the lectures take place. While applying for the course, each student will be asked to write a short essay (max 300 words) describing their current work and/or research interests. In this way we will know how relevant their work is. Using the input we have we will assign the students to the most relevant lecture day to present their work in the afternoon sessions. The seminars will help the students to get feedback for their work, which is a very good opportunity for them especially when the feedback comes directly from the expert of the topic. This will also help them to correct their mistakes at an early stage of their ongoing study. Discussing their ongoing work with the other students and the lecturer will provide the student an opportunity to articulate his or her ideas and also a simulation for their future seminars such as PhD defence and conferences. Accepted students who does not have their own work to present will be asked to select a paper from the reading list to present.

The post-lecture period includes a take home for master and PhD level students and a discussion essay (2000 words) for PhD students

Requirements for examination

Passed take home exam, passed seminar and also participation is a requirement for a pass grade: i. Each student will give a seminar and take home exam during the post lecture period (Master and PhD level students). ii. PhD students will be asked to write a 2000 words discussion essay additionally to get the full 7.5 credits. PhD students who only complete the task group i successfully will get 4 credits.

Additional information

The Department of Forest Economics reserves the right to cancel the course if there are not more than 5 students who have applied and is accepted to the course.

There is no tuition fee for students, and the course will meet online.

To apply for the course, send your CV (max 2 pages) and also a letter of interest (max. 300 words) giving information about your research interests and current projects. For up-to-date information regarding the course, see https://www.slu.se/BEE2021.

Responsible department

Department of Forest Economics