

P000060, Makroekonomisk analys av hållbarhet, 7.5 Hp

Kursplan

Fastställd av: Fastställd av: People, Society and Sustainability research school, 2024-02-06, 2024-02-06

Giltig från och med: HT2023

Utbildningsnivå:

Forskarnivå

Ämne:

- Other social science

Språk:

Svenska

Behörighetskrav:

Accepted as a PhD student in economics.

Mål:

Upon completion of the course, the students will be able to:

- develop and use a generic macroeconomic model of natural resource use and pollution;
- analyze – with the help of the generic model – the evolution of the approach to the modelling of the extraction and use of non-renewable natural resources in a macroeconomic context with growth, starting with the Dasgupta-Heal-Solow-Stiglitz (or DHSS) model from the 1970s, and ending at the research frontier;

- analyze – with the help of the general model – models of how emissions of local, short-lived pollutants are expected to develop over time under optimal policy, related to the Environmental Kuznets Curve hypothesis;
- analyze – with the help of the generic model – the evolution of the approach to the modelling of emissions of global, long-lived pollutants such as CO₂, including the damages caused by such emissions and optimal policy, starting with Nordhaus' DICE model of 1993, and ending at the research frontier;
- analyze – with the help of the generic model – approaches to the modelling of land use and the exploitation of biological natural resources.

Furthermore, students will be able to analyze in depth – through one specific recent paper published in a leading journal (good general interest or top field) – an advanced topic such as discounting and climate damages, risk and climate damages, climate policy with multiple externalities (e.g. knowledge spillovers in addition to pollution damage), the costs and benefits of environmental policy, sustainability and inequality.

- analyse, using two distinct models, the implications of different values of biodiversity for conservation and extinction
- analyse, using one-sector stochastic non-convex growth frameworks, when, and under what conditions, safe standards for conservation exist
- analyse, using extensions of one- and two-sector climate-economy models, the effects of quasi-hyperbolic discounting upon optimal carbon emissions and the value of “commitment”

Innehåll:

After setting up our generic model (which is a simplified version of models in many recent papers) the content will be focused around a series of papers. The core papers will include some of the following.

- Topic 1: the original DHSS papers from 1974, and Hart (2016).
- Topic 2: Stokey (1998), Shapiro and Walker (2018), and Hart (2020).
- Topic 3: the DICE model and Golosov et al. (2014).
- Topic 4: Macroeconomics and Conservation: valuing biodiversity (Brock and Xepapadeas (2003) and extinction of species (Weitzman (1998)).
- Topic 5: Growth models and conditions for optimal conservation and extinction (Mitra and Roy (2006) and Olson and Roy (1996))
- Topic 6: Climate change and discounting: Iverson and Karp (2021) and Gerlagh and Liski (2018)

The papers for the in-depth analysis will be chosen by the students themselves.

Examinationsformer och fordringar för godkänd kurs:

There will be a short written examination on the core topics, plus a written term paper containing the in-depth analysis. This paper must be submitted in advance of the final seminar, an all-day event at which students will discuss each other's work in depth. - Examinatorn har, om det finns skäl och är möjligt, rätt att ge en kompletteringsuppgift till den student som inte blivit godkänd på en examination. - Om studenten har ett beslut från SLU om riktat pedagogiskt stöd på grund av funktionsnedsättning, kan examinatorn ge ett anpassat prov eller låta studenten genomföra provet på ett alternativt sätt. - Om denna kursplan läggs ned, ska SLU besluta om övergångsbestämmelser för examination av studenter, som antagits enligt denna kursplan och ännu inte blivit godkända. - För examination av självständigt arbete (examensarbete) gäller dessutom att examinatorn kan tillåta studenten att göra kompletteringar efter inlämningsdatum. Mer information finns i utbildningshandboken.

Ansvarig institution/motsvarande:

Institutionen för ekonomi

Kompletterande uppgifter

Övrig information:

- Rätten att delta i undervisning och/eller handledning gäller endast det kurstillfälle, som studenten blivit antagen till och registrerad på.
- Om det finns särskilda skäl, har studenten rätt att delta i moment som kräver obligatorisk närvaro vid ett senare kurstillfälle. Mer information finns i utbildningshandboken.