

A graphic within a rectangular frame. It features a brown, jagged ground line. On the left, a yellow smokestack emits a long, wavy plume of yellow smoke. In the center, a small red stick figure stands on the ground. On the right, a green tree with a brown trunk stands. The background is a light blue sky.

**Sustainable Development**

A graphic within a rectangular frame, identical to the one on the left. It features a brown, jagged ground line. On the left, a yellow smokestack emits a long, wavy plume of yellow smoke. In the center, a small red stick figure stands on the ground. On the right, a green tree with a brown trunk stands. The background is a light blue sky.

**Sustainable Development**

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## Introduction to the course

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About the book  
(Preface)

- Economic growth on Spaceship Earth
- Questions regarding management of the economy
- Macroeconomic methodology
- The book (and the course!)

About the course

## About the book (Preface)

# Economic growth on Spaceship Earth

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# Economic growth on Spaceship Earth

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George Orwell in 'The road to Wigan Pier'.

The world is a raft sailing through space with, potentially, plenty of provisions for everybody; the idea that we must all co-operate and see to it that everyone does his fair share of the work and gets his fair share of the provisions seems so blatantly obvious that one would say that no one could possibly fail to accept it unless he had some corrupt motive for clinging to the present system.

# Economic growth on Spaceship Earth

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Kenneth Boulding in 'The economics of the coming Spaceship Earth'.

The closed economy of the future might . . . be called the 'spaceman' economy, in which the earth has become a single spaceship, without unlimited reservoirs of anything, either for extraction or for pollution, and in which, therefore, man must find his place in a cyclical ecological system which is capable of continuous reproduction of material form even though it cannot escape having inputs of energy.

# Questions regarding management of the economy

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# Questions regarding management of the economy

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About the course

1. (a) What is desirable?  
(b) What is feasible?  
(c) What is optimal?

Economics, utilitarian, discounting:

$$\max \sum_h U^h,$$

where

$$U^h = \sum_t u^h(c_t) \beta^t.$$

Rawls, maximin:

$$\max\{\min\{u_1, u_2, \dots, u_n\}\}.$$

## Questions regarding management of the economy

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2.
  - (a) What would happen given laissez-faire?
  - (b) What would happen given business-as-usual (b.a.u.)?
  - (c) What would be the effect of regulations such as high taxes on fossil fuels, or strong support for research into renewable energy?
  - (d) What would a *social planner* do?
  - (e) What should a *regulator* do?



# Macroeconomic methodology

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# Macroeconomic methodology

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Consider the following aggregate production function.

$$Y = (A_L L)^{1-\beta} (A_R R)^\beta. \quad (1)$$

Why do we need to give it microeconomic foundations if we are to draw policy conclusions?

# The book (and the course!)

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# The book (and the course!)

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## About the course

Narrow approach.

Focus on questions 2(b) and (c): economic development under b.a.u., and how this can be managed.

Thus conveniently obviating the need to explore the more difficult questions focused on optimality. It turns out that predicting the future is quite hard enough as it is.

# The book (and the course!)

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## About the course

1. Technological progress and economic growth
2. Production under resource constraints
3. Pollution and sustainability

About the book  
(Preface)

About the course

- Your own development
- Examination
- Schedule

## About the course

# Your own development

About the book  
(Preface)

About the course

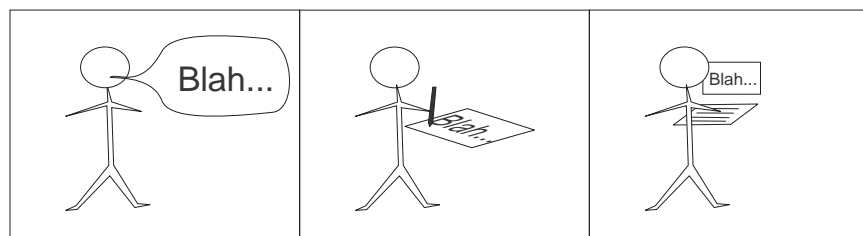
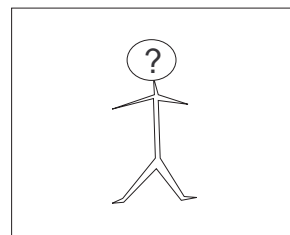
- Your own development
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# Your own development

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The pictures illustrate four skills. Learning to think, both imaginatively and analytically, is primary. You also need to learn to present your ideas, both orally and in writing. Furthermore, you need to learn to handle a computer, to program and simulate economic models. We will work mainly on the first three during the course.



# Examination

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## Examination

See homepage,

<http://www.ekoninternt.se/rob/susdev20/>,  
grading criteria.

In short, we have gobbets, a research paper, and the written examination. To pass the course you must pass all elements. To get higher grades you must collect bonus points, one for each point over 36 in the exam, a maximum of three per gobbet (but not more the 8 in total), and a maximum of 8 for an outstanding research paper (in all respects).

# Schedule

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## Schedule

Course schedule.

Back to normal after Covid, but video material on webpage may be useful!