

Sustainable Resources Management

Single subject and programme course

15 credits

Sustainable Resources Management

746A69

Valid from: 2011 Spring semester

Determined by

The Quality Board at the Faculty of Arts
and Sciences

Date determined

2011-03-25

Main field of study

Environmental Science

Course level

Second cycle

Advancement level

A1N

Course offered for

- Master´s Programme in Science for Sustainable Development

Entry requirements

- Bachelor's degree equivalent to a Swedish Kandidatexamen in one of the following areas:
 - natural sciences,
 - social sciences,
 - humanities or
 - engineering
- 15 ECTS credits passed in environmental sciences, sustainable development, or equivalent.
- English corresponding to the level of English in Swedish upper secondary education (English 6/B)
(Exemption from Swedish)

Intended learning outcomes

After completion of the course, the student should on an advanced level be able to:

- Demonstrate practical knowledge of energy and water management.
- Critically analyze and assess climate mitigation and adaptation strategies.
- Competently use methods and tools relevant to sustainable resources management.

Course content

This course addresses multiple aspects of sustainable resource management with focus on water and energy. As climate change will result in even greater challenges for both of these areas, in terms of both mitigation and adaptation, different policies, practices and techniques related to the planning and implementation of sustainable infrastructure and approaches will be analysed. Water and energy are essential for many functions in society. Provision is often organized in large technical systems connecting users with suppliers. These modes of provision have changed over time and can be very different depending on the context, e. g., industrialized and developing countries or urban and rural areas. Such differences will be explored throughout the course.

The aim of the course is to prepare the student for work with water and energy management in a practical sense. Through exercises, such as strategy games, GIS-labs and educational visits, learning is achieved by way of hands-on experiences. Focus is on understanding the potentials and pitfalls inherent in different management strategies, and trade-offs with different societal and environmental goals.

The course has three parts:

1. Water management. A strategy game, lectures, seminars and laboratory exercises will make clear and extend the practical and theoretical understanding of water management strategies and their trade-offs.
2. Energy management. A strategy game, lectures, seminars, laboratory exercises and educational visits will make clear and extend the practical and theoretical understanding of critical issues related to energy use and production.
3. Individual paper. The student shall write an individual paper where a particular water and/or energy management issue in a particular, community, country or region is reviewed and analyzed, including trade-offs with different societal and environmental goals.

Teaching and working methods

Pedagogical forms include lectures, seminars, workshops, laboratory exercises, field studies, educational visits and report writing. The language of instruction is English.

Examination

The course is examined through written assignments and active participation in exercises, seminars, workshops and educational visits. Detailed information about the examination can be found in the course's study guide.

If the LiU coordinator for students with disabilities has granted a student the right to an adapted examination for a written examination in an examination hall, the student has the right to it. If the coordinator has instead recommended for the student an adapted examination or alternative form of examination, the examiner may grant this if the examiner assesses that it is possible, based on consideration of the course objectives.

Students failing an exam covering either the entire course or part of the course twice are entitled to have a new examiner appointed for the reexamination.

Students who have passed an examination may not retake it in order to improve their grades.

Grades

ECTS, EC

Other information

Planning and implementation of a course must take its starting point in the wording of the syllabus. The course evaluation included in each course must therefore take up the question how well the course agrees with the syllabus.

The course is carried out in such a way that both men's and women's experience and knowledge is made visible and developed.

Department

Institutionen för Tema