



# AE2301 Water and Waste Handling

## 7.5 credits

### Water and Waste Handling

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This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

### Establishment

Course syllabus for AE2301 valid from Autumn 2007

### Grading scale

A, B, C, D, E, FX, F

### Education cycle

Second cycle

### Main field of study

Built Environment

### Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

### Intended learning outcomes

After the course you should be able to:

- Understand water and material flow in society, need for sustainable development, recycling and reuse. You will be able to make a problem identification based on historical perspective and trends, connected to water scarcity, water quality and health.
- Describe requirements and formulate goals of water, wastewater and solid waste handling systems.
- Apply your knowledge in treatment methods to choose an appropriate technology for water and waste handling as a part of urban and rural infrastructure.
- Implement your knowledge in hydraulics, chemistry and microbiology in water and waste handling.
- Understand management of water and waste handling systems based on experiences and trends from rural and urban areas in different countries.

## Course contents

The course describes different systems for handling of water, wastewater and solid wastes and criteria for evaluation.

Technical aspects are based on principles and fundamentals of biological, chemical and separation methods. A multi-disciplinary approach is used in evaluation of systems. Study visits at wastewater treatment plant and solid waste incineration plant are included.

## Specific prerequisites

At least 180 higher education credits of academic studies including 35 credits in mathematics, physics, chemistry and geoscience, AE2101 Environmental Dynamics/Chemical Processes or equivalent. Documented proficiency in English B or equivalent.

## Course literature

- Hultman et al. 2000. Water use and management. Lars-Christer Lundin (Editor), The Baltic University Programme – Uppsala University (selected parts).
- Stypka et. al. Municipal solid waste and sludge handling - Sustainability and trends. (compendium as pdf-file on the homepage)
- Levlin, E. Water and waste pipes (compendium as pdf-file on the homepage)
- Additional course materials will be distributed at lectures

## Examination

- TEN1 - Examination in Calculation Methodology, 2.3 credits, grading scale: P, F
- TEN2 - Examination in Application, 5.2 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

## Other requirements for final grade

Examination (TEN1; 5 cr)

Exercises (ÖVN1; 2,5 cr)

## Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.