# AL2181 Environmental System Analysis and Decision making 7.5 credits

**Miljösystemanalys och beslutsfattande**

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

## Establishment

The course syllabus is valid from Autumn 2023 according to the Head of school decision: A-2023-0461, 3.2.2. Decision date: 2023-03-27

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

Environmental Engineering, Mechanical Engineering

## Specific prerequisites

At least 150 higher education credits in science or technology.

Courses from upper secondary school corresponding to the courses Eng B/6 according to the Swedish upper secondary school system or equivalent.

## Language of instruction

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

## Intended learning outcomes

After the course, the student should be able to:

- characterise a specific environmental decision situation;
- describe the key characteristics of the main environmental systems analysis tools;
- understand the decision-context dependency in the choice of appropriate tools;
- explain and analyze how a specific environmental systems analysis tool may contribute to an improved decision-making in a specific decision situation;
- describe and explain what types of development trends may be expected in the area of environmental systems analysis; and
- demonstrate an ability to cooperate in a group task work and, together with other students, produce a joint report of high quality with respect to formal issues, facts content and analysis.

## Course contents

In lectures and seminars, central principles of environmental decision making will be explained and discussed, including:

· decision-making theory and environmental decision-making; Systems theory, systems thinking and systems analysis.

· environmental systems analysis, environmental assessment, evaluation.

· tools for environmental systems analysis, strategic environmental assessment (environmental impact assessment, life-cycle assessment, material flow analysis, cost-benefit analysis, integrated assessment.

## Examination

- TEN3 - Exam, 3.5 credits, grading scale: A, B, C, D, E, FX, F
- PRO4 - Project, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- SEM1 - Seminar, 0.5 credits, grading scale: P, F
- SEM2 - Seminar, 0.5 credits, grading scale: P, 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.

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

Students who have not completed the course with previous examination are asked to contact the examiner.

## 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.