



# MJ2685 Smart Cities and Climate Mitigation Strategies- Project Based 7.5 credits

"Smart Cities" och klimatåtgärder- projektbaserad

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

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

Admitted to Master's Programme, Sustainable Technology (TSUTM).

Others: Degree of Bachelor or Degree of Bachelor of Science in Engineering or other corresponding technical, natural or other science degree at first cycle academic education of at least 180 higher education credits or equivalent.

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 passed course the student should be able to:

- Describe and explain concepts of “Smart Cities” based on scientific literature and reports from case studies.
- Describe and discuss the mitigation challenges for the cities today and in the future.
- Investigate, analyze and explore “Smart City“ concepts and solutions in relation to the climate mitigation challenges for important urban development sectors, such as transportation, buildings, consumption, lifestyle, energy production, waste management, water management, etc.
- Complete a “Smart City” team-based project, related to climate mitigation on an urban level together with a relevant stakeholder such as a waste company, the municipality, or a local energy or water utility.
- In a written and oral form present the result from a project work in a scientifically acceptable form.

## Course contents

The concept of a “Smart City” reflects that ICT is increasingly integrated in all areas of urban development and urban living. It is also a reflection of how ICT is being designed with sustainability purposes.

The course will provide knowledge about the concept of Smart Cities and their relation to climate mitigation strategies. These strategies are geared toward the municipalities themselves, as well as urban actors across all city sectors, including companies, property owners, utilities, households, etc.

This course is project-based with a multidisciplinary approach, including environmental, technological, economic and social aspects. The basic aim of the course is to, on a system level, investigate and explore the potentials of the concept of “Smart Cities” in relation to the challenges associated with mitigation strategies for the cities of today and tomorrow.

## Examination

- FLT2 - Study visit, 0.5 credits, grading scale: P, F
- LIT1 - Literature Assignment, 2.0 credits, grading scale: P, F
- NÄR1 - Attendance, 1.0 credits, grading scale: P, F
- PRO1 - Project, 4.0 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.

## 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.