



AI1531 Introduction to the Planning and Building Process, Minor Course 7.5 credits

Samhällsbyggnadsprocessen, mindre kurs

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 AI1531 valid from Autumn 2015

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Compulsory for open students year 2 who have been admitted to the Degree Programme in Civil Engineering and Urban Management (CSAMH).

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 students should be able to:

- describe human needs and functional requirement that should underpin the urban development.
- account at a general level for the development of technology in the area of built environment.
- account for natural preconditions such as soil, water and ecosystem in relation to the built environment.
- describe the stages of the urban development from planning to administration.
- describe the relationships between the historical development of society, infrastructure and built environment and the urban development of today and the future.
- account for relations between built environment and natural environment and how they are used.
- account for political, administrative and economic aspects of the urban development process.
- describe how the different parts of the urban development relate to sustainable development and at the basic level be able to reflect on economic, social and ecological aspects of different solutions and possible conflicts between them.
- account for how laws, regulatory system and different interested parties' action influence the indoor/outdoor environment.
- account for the technical infrastructure for water, drain, waste and energy and be able to reflect on their importance for a sustainable development.
- describe constructions and the basic technical design of buildings, roads, rails, bridges and tunnels.
- account for ethical issues in the urban development process and discuss the dilemmas they can imply in the professional role of an engineer.
- reflect over how you as independent professionals can influence the development in society on short and long view.

Course contents

The course is divided into the following parts:

1 Development, infrastructure and planning

- the historical development of cities and the infrastructure and role, driving forces behind development in society, the actors of the planning, the Swedish administration system, regional and municipal planning, transports, traffic and sustainable city development, the concept of sustainable development.

2 Natural resources and sustainable infrastructure

- physical preconditions for land use (soil - water and ecology), technical infrastructure for water - and drain, waste, energy, impact of land use, EIA.

3 Real estate development

- planning-, building- and environmental legislation, construction, operation and funding of infrastructure and legislation about land acquisition and compensation, profitability calculations and construction cost, economical policy instruments, assessment of the building from economic and social perspectives.

4 Buildings and civil engineering structures

- building construction (construction and installation technique), civil engineering structures (geotechnics, roads and rail, bridge structure and tunnels), building material, the environmental impact of buildings and risks.

5 The professional role and ethics

- the professional role, ethical aspects in the urban development and technical development, professional ethical considerations and dilemmas, working environment, risks and risk assessments.

Disposition

The course follows the lectures in the course AI1527 Samhällsbyggnadsprocessen part 1-4 and respective written examination and part 5 in full (seminar about professional role and ethics).

Course literature

Kurskompendium för Samhällsbyggnadsprocessen. KTH Royal Institute of Technology, Stockholm

Cecilia Björk, Lars Nordling and Leila Reppen (2012) Så byggdes staden. 3rd edition. Svensk Byggtjänst, Stockholm.

Examination

- SEM1 - Seminar, 1.5 credits, grading scale: P, F
- TEN1 - Written Exam, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN2 - Written Exam, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN3 - Written Exam, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN4 - Written Exam, 1.5 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

A passed written examination of part 1-4 (TEN1, 1.5 credits; TEN2, 1.5 credits; TEN3, 1.5 credits; TEN 4, 1.5 credits; in total 6 credits)

Participation SEM1 1.5 credits.

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.