AI1527 Introduction to the Planning and Building Process 13.5 credits

Samhällsbyggnadsprocessen

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

Establishment

Course syllabus for AI1527 valid from Spring 2019

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Entry requirements 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 the built environment.
- account for how natural preconditions such as soil, water and ecosystem in relation to the built environment.
- describe the stages of the urban development process from planning to management.
- 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 urban 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.
- search after and use various types of sources of information.
- write a well-structured and informative report with citations and present the results orally.

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, compensation and changes of real property division, profitability calculations and construction cost, economic policy instruments, assessment of the building from economic and social perspectives.
4. Buildings and civil engineering structure
   - building construction (construction and installation technique), civil engineering structure (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.

In part 1-4, the teaching consists of lectures interleaved with exercises and essays that are written in groups within the theme of each part. Each part is completed with a written examination. Part 5 is carried out as seminar. In the course, study visit is also included.

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
- TEN4 - Written Exam, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Excercise, 1.5 credits, grading scale: P, F
- TEN3 - 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
- TEN1 - Written Exam, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN4 - Excercise, 1.5 credits, grading scale: P, F
- ÖVN2 - Excercise, 1.5 credits, grading scale: P, F
- ÖVN3 - Excercise, 1.5 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.

Other requirements for final grade

For final grade is required

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)

A passed course essay on part 1-4, passed exercises and participation in seminars and study visit (ÖVN1-5; 1.5 credits each, in total 7.5 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.