



# AG2141 Urban Infrastructure

## 7,5 hp

Urban Infrastructure

När kurs inte längre ges har student möjlighet att examineras under ytterligare två läsår.

### Fastställande

Kursplan för AG2141 gäller från och med VT09

### Betygsskala

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

### Utbildningsnivå

Avancerad nivå

### Huvudområden

Samhällsbyggnad

### Särskild behörighet

3 years of university studies within the field of Planning, Architecture, Engineering or Social Science.

### Undervisningsspråk

Undervisningsspråk anges i kurstillfällesinformationen i kurs- och programkatalogen.

## Lärandemål

The aim of the course is to provide basic knowledge on the functions, dynamics and interactions of urban infrastructure systems. After fulfilling the course requirements students should be able to:

- Demonstrate a general understanding of the planning and management of urban infrastructure systems.
- Describe the dynamics within and between urban infrastructure systems, and their relation to the built environment and economic development.
- Provide a critical analysis of the consequences of ongoing developments and future needs on urban infrastructure provision.
- Assess the qualities of infrastructure systems in terms of vulnerability, sustainability, equity and efficiency.

## Kursinnehåll

The course provides an introduction to the planning and management of urban infrastructure, dealing with different types of infrastructure systems, such as energy supply, drinking water supply, sewerage and waste disposal, transportation and telecommunications. In the course the infrastructure systems are studied within the context of the organisations responsible for the management and development of these facilities, and the economic and legal conditions that regulate the systems.

Infrastructure systems have been developed gradually over a period of several generations. Adjustment of these systems towards future needs and developments can thus only take place in a slow pace, and requires deeper understanding on the historic development, the structure and the dynamics of infrastructure systems. This also implies that decisions on infrastructure investments should consider the long-term consequences on urban structure, financing and management. In the course the needs for change will be identified as part of a discussion on the long-term development of infrastructure systems. The opportunities for change will be discussed in relation to the dynamics of the infrastructure systems.

The funding of investments, the charging of services and the equity of access to infrastructure facilities are issues that will be discussed in the course. Furthermore, the impacts of ongoing structural changes such as deregulation, privatisation and internationalisation, on the planning and management of urban infrastructure will be analysed. International perspectives are merged with considerations relating to Swedish contexts.

The course consists of lectures, a literature seminar and a project work in which students are preparing a paper on strategies for the development of sustainable urban infrastructure systems.

## Kurslitteratur

Compendium that includes a collection of recent publications within the field of study.

## Examination

- NÄR1 - Lectures, 1,5 hp, betygsskala: P, F
- TEN1 - Skriftlig tentamen, 3,0 hp, betygsskala: A, B, C, D, E, FX, F
- ÖVN1 - Övningar och fältövningar, 3,0 hp, betygsskala: A, B, C, D, E, FX, F

Examinator beslutar, baserat på rekommendation från KTH:s handläggare av stöd till studenter med funktionsnedsättning, om eventuell anpassad examination för studenter med dokumenterad, varaktig funktionsnedsättning.

Examinator får medge annan examinationsform vid omexamination av enstaka studenter.

## Övriga krav för slutbetyg

In order to pass the course, students need to:

Attend 75 percent of the lectures and participate in the literature seminar and the study visit (1,5 cr)

Participate in and contribute to the group work that involves the writing and presentation of a paper (3 cr)

Pass the written exam (3 cr)

## Etiskt förhållningssätt

- Vid grupparbete har alla i gruppen ansvar för gruppens arbete.
- Vid examination ska varje student ärligt redovisa hjälp som erhållits och källor som använts.
- Vid muntlig examination ska varje student kunna redogöra för hela uppgiften och hela lösningen.