



# AL2110 Hållbar livsmedelsproduktion och konsumtion 7,5 hp

Sustainable Food Production and Consumption

## Fastställande

Kursplan för AL2110 gäller från och med HT18

## Betygsskala

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

## Utbildningsnivå

Avancerad nivå

## Huvudområden

Miljöteknik, Maskinteknik

## Särskild behörighet

At least 150 academic credits (ECTS) in a programme of engineering or natural science or the course MJ2615 Introduction to Industrial Ecology or equivalent.

## Undervisningsspråk

Undervisningsspråk anges i kurstillfällesinformationen i kurs- och programkatalogen.

# Lärandemål

After finishing the course, the student should be able to:

- describe and discuss the sustainability of alternative food and farming systems;
- discuss the pros and cons of a Circular Food System;
- assess a current food system challenge with a hard (i.e. quantitative) systems approach;
- model nutrient stocks and flows of a selected system, as well as their disruption;
- compare the relative merits of a bio-based production systems with those of a fossil-based production systems (e.g. organic vs. conventional farming); and
- reflect upon one's own state of knowledge and identify additional information needs and skill development, and reflect upon one's own abilities, strengths and weaknesses both in science and as a professionally active person and work team member.

# Kursinnehåll

The course aims to show alternative food systems and the complexities associated with these. The course demonstrates the benefits of closing the loop (e.g. nutrient and water cycles) in food systems (e.g. in agriculture and waste management like biowaste composting). Topics covered include: bioeconomy and agroecology, disturbance of stocks and flows in the anthroposphere and the implications of perturbing global biogeochemical cycles on environmental change, food security, trade.

- Circularity in Bioeconomy vs. Fossil Economy
- Global Cycles (Energy, Water, Biogeochemical: Carbon, Nitrogen, Phosphorus, Methane, Phosphorus, Sulphur)
- Human Appropriation of Stocks and Flows
- Ecosystem Services
- Life Cycle Assessment

# Kursupplägg

- ATT1 - Attendance, 1.0 , grade scale: P, F
- PRO1 - Project, 5.0, grade scale: A, B, C, D, E, FX, F
- RED1 - Assessment, 1.5, grade scale: P, F

# Kurslitteratur

To be described before course start

## Utrustning

The course uses KTH's learning management system (LMS) as an important support. A computer with internet and e-mail and the possibility to use Word and Excel (Microsoft version recommended) and to read pdf- files is necessary. Other software (e.g. STAN) that is needed in the course will be downloadable from the internet or from the LMS or made available on KTH computers.

## Examination

- PRO1 - Projekt, 5,0 hp, betygsskala: A, B, C, D, E, FX, F
- RED1 - Inlämning, 1,5 hp, betygsskala: P, F
- ATT1 - Närvaro, 1,0 hp, betygsskala: P, 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.

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

## Övriga krav för slutbetyg

ATT1 - Attendance, 1.0 , grade scale: P, F

PRO1 - Project, 5.0, grade scale: A, B, C, D, E, FX, F

RED1 - Assessment, 1.5, grade scale: P, F

## 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.