



# FSG3133 Engineering for a Sustainable Society 3.0 credits

Ingenjörskap för ett hållbart samhälle

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

## Establishment

Course syllabus for FSG3133 valid from Autumn 2017

## Grading scale

G

## Education cycle

Third cycle

## Specific prerequisites

Open to all PhD-students registered at KTH

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

The overall goal of the course is to Give a sustainable and multidisciplinary perspective to PhD students and inspire by linking science and societal challenges. The students will learn to identify relevant data to address societal challenges, tools to analyses and quantify the

challenges, methodologies for reviewing technological gaps, and to relate innovation needs with research.

## Course contents

The course will cover different aspects of the sustainability challenges that humanity encounters presently. It will consist of inspiring lectures given by KTH researchers and external presenter. The lectures will highlight new aspect and different perspectives regarding the societal challenges and also present the point of view of different actors or stakeholders. The second part of the course will consist of presentations prepared by the students (in group of 4-5). Each group will do 3 presentations focusing respectively on (i) describing a societal challenge, (ii) presenting technical solutions, and (iii) identifying research needs for a sustainable society.

## Disposition

The course will be organized in form of 4 times one-day events. It will be composed of inspirational lecture by KTH-staff and external professionals and presentations by the PhDstudents.

The inspirational lectures target opening perspective and provide tools to identify and understand societal challenges, technical needs and innovative science. Student presentations will complement the course and will consist of 3 presentations for each group of 4 or 5 students. These presentations have different objective and will focus successively from a societal challenge (A) to technical solutions (B) and finally research challenges (c). For presentation A the students will chose a societal challenge to examine, find and present data to define the challenge and set ground for addressing the challenge. For presentation B, the students will identify technologies (or technical bottlenecks) that are used to solve A. Theses technologies will be presented critically. For presentation C, the students will examine the potential of better understanding (research for empowering innovation and erase bottlenecks in B. The preparation of presentation A, B and C will be supervised by coaches.

The course output (selected presentations of students) will be presented at different events organised by KTH Sustainability office, e.g. KTH sustainability days.

## Course literature

Mostly material from internet.

## Examination

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

Pass will be given to students that have (i) been present at all inspirational lecture, and (ii) that have participated to the three presentations (both as active presenter and in discussions following other groups' presentations).

## 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.