



FSG3133 Ingenjörskap för ett hållbart samhälle 3,0 hp

Engineering for a Sustainable Society

Fastställande

Kursplan för FSG3133 gäller från och med HT17

Betygsskala

G

Utbildningsnivå

Forskarnivå

Särskild behörighet

Open to all PhD-students registered at KTH

Undervisningsspråk

Undervisningsspråk anges i kurstillfällesinformationen i kurs- och programkatalogen.

Lärandemål

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.

Kursinnehåll

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.

Kursupplägg

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 Sustainabilty office, e.g. KTH sustainability days.

Kurslitteratur

Mostly material from internet.

Examination

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

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

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.