



AG2801 Environmental Assessment of Buildings 7,5 hp

Environmental Assessment of Buildings

Fastställande

Kursplan för AG2801 gäller från och med VT09

Betygsskala

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

Utbildningsnivå

Avancerad nivå

Huvudområden

Särskild behörighet

Eligibility for single course students:

- Completed, documented upper secondary education inkl documented proficiency in English and
- academic studies of 180 hp in engineering, architecture/planning or natural sciences including 15 hp in environmental science or equivalent.

Undervisningsspråk

Undervisningsspråk anges i kurstillfällesinformationen i kurs- och programkatalogen.

Lärandemål

The overall aim of the course is to provide a general introduction to the topic environmental assessment of buildings and more specifically to help you build up a basic analyst's competence in Life Cycle Assessment (LCA) and its use when making environmental building assessments.

After completing the course, you should be able to:

- Describe the potential environmental impacts caused by different stages in a building's life span.
- Discuss potential environmental hotspots depending on building type.
- Tell the differences between common tools for environmental assessment of buildings.
- Use an LCA-based tool for environmental assessment of buildings.
- Reflect on optimisation of different (and possibly competing) environmental qualities and impacts in a planning or operation stage of a building.
- Explain how results from different types of environmental assessments of buildings can be used in practice.

In addition you should be able to:

- Explain the overall purpose and principles of LCA.
- Discuss possible applications and limitations of LCA.
- Describe the content and explain the purpose of the analytical steps of LCA.
- Carry out a complete LCA of a chosen product or service system, including:
 1. identify and delimit the system,
 2. specify and handle allocation problems,
 3. identify and use relevant data from LCA databases,
 4. collect and use data from other sources,
 5. choose characterisation (and valuation) method based on coverage and relevance to the intended application,
 6. implement and use a computer model of the system in the LCA software SimaPro,
 7. analyse, explain, and interpret model results.
- Write a report of the performed LCA, applying to the reporting guidelines and terminology as defined in the ISO standard for LCA.
- Make a critical review of another LCA.

Kursinnehåll

The course includes lectures and a project assignment in group, followed up by a seminar.

Lectures cover:

- the impact of buildings on human health, environment and natural resources

- environmental management in the building and property sector
- LCA methodology
- Tools/methods for environmental assessment of buildings
- Application of tools for environmental assessment of buildings

Kurslitteratur

Baumann, H, and Tillman, A.-M. (2004): The Hitch Hiker´s Guide to LCA. Studentlitteratur.

Recent scientific papers will be handed out at the start of the course.

Examination

- PRO2 - Projekt, 4,0 hp, betygsskala: A, B, C, D, E, FX, F
- PRO1 - Critical Review, 1,0 hp, betygsskala: P, F
- TEN1 - Tentamen, 2,5 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.

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

Övriga krav för slutbetyg

Examination (TEN1; 2,5 hp), Critical review (PRO1; 1,0 hp), Project report (PRO2; 4,0 hp).

Final grade is a weighted average of the written exam and the project report. "Pass" grade on the critical review is required to receive a final grade.

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.