AF2509 Indoor Environmental Quality - Occupant Satisfaction and Building Performance 7.5 credits

Inomhusklimat - kundnöjdhet och byggnadsprestanda

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

Establishment

Course syllabus for AF2509 valid from Autumn 2013

Grading scale

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

Education cycle

Second cycle

Main field of study

The Built Environment

Specific prerequisites

Bachelor exam "Samhällsbyggnad" or equivalent, e.g. "Högskoleingenjör" in Building Construction

Language of instruction

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

Intended learning outcomes

The course aims at providing a sound understanding of the significance of indoor environmental quality for the well-being and performance of occupants, the methodologies for assessing and evaluating measured/perceived indoor environmental quality, as well as the inter-relationships between customer/occupant satisfaction and overall building performance (energy efficiency/quality, cost efficiency and environmental impact) in different categories of buildings, including high-performing buildings and special environments.

Course contents

Upon successful course completion, students are intended to have gained a sound understanding of the folowing aspects of indoor environmental quality and building performance in different categories of buildings:

- Impacts of indoor environmental quality (IEQ) on occupant satisfaction and performance
- Impact of building construction/design on IEQ (bioclimatic design)
- IEQ criteria and system choice in retrofitting and new construction
- IEQ and building economy
- IEQ and energy efficiency/quality in buildings
- IEQ and environmental impact of buildings
- Impact of occupant behavior on IEQ and building performance
- Technologies and methodologies for measuring and evaluating IEQ (thermal comfort, indoor air quality, lighting and acoustic conditions) in different categories of buildings
- Assessment of perceived IEQ, development and implementation of IEQ questionnaire studies
- Integrated assessment of building performance (inter-relationships between customer satisfaction/performance, energy efficiency/quality, economic efficiency and environmental impact)
- Visualization of IEQ andbuildingperformance
- IEQ in high-performing buildings (passive, near-zero-energy and positive energy buildings)

- IEQ in special environments (health-care facilities, schools, vehicles/airplanes, special industrial settings)

Course literature

Föreläsningsspecifika särtryck

Litteraturen kan komma att kompletteras under kursens gång

Examination

- PRO1 - Project, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F

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.

PRO1-Project assignment; 4,5 ECTS; Grade scale A-F

TEN1 - Written exam; 3 ECTS; Grade scale A-F

Other requirements for final grade

Passed in PRO1 and TEN1

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.