A52H1B Sustainable Design - Studio 5:1 12.0 credits

Hållbar gestaltning - Studio 5:1

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

Establishment

Course syllabus for A52H1B valid from Autumn 2009

Grading scale

P, F

Education cycle

Second cycle

Main field of study

Architecture

Specific prerequisites

Bachelor's Degree, or an equivalent level, within the field of Architecture + passed 4th year studies.

Language of instruction

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

Intended learning outcomes

Micro - Macro; A) Micro

Overall goals
The project is part of the Sustainable Design Studio.
Studio Description: In order to develop new strategies for designing a sustainable society, this Studio emphazise economy, ecology, energy and new technology in relation to architecture and urban design.
2. Projektet syftar till ökad kunskap inom detta område och till fördjupad kunskap/färdighet inom arkitekturämnet som helhet. Projektet riktar sig till studenter som kan ha kommit olika långt i denna fördjupning och som därför även efter projektets slut kommer att ligga på olika nivåer.
3. Den enskilde studenten skall efter projektet ha redovisat en individuell utveckling av sina kunskaper och färdigheter inom studioinriktningens program och inom arkitekturämnet som helhet

Kursmål - Course goals
The Micro-Macro studio sets special focus on the creation of an interdisciplinary working process, building up technical and architectural know-how by investigating materials, processes and details through project work.
The basics of sustainable Architecture are studied in the prototype project (project 4:1 and 5:1), the specific use of sustainability within Architecture is studied in the implementation project (project 4:3; only spring term students)

This project
Sited on an island in the Stockholm Archipelago, the project will be developed around ideas of sustainable living. The studio work will create an architectural understanding for basic principles of sustainability at the same time as the work will relate to Stockholm – environmental capital 2010 and initiatives to save the Baltic Sea.
We will explore basic conceptions like eco-system, climate design, energy flow and tectonics (material/assembly) and we will apply them as design conceptions to develop prototype projects of detailed scale. Input lectures together with partly shared design research will lead to individual architectural projects.
5th year students with completed one year sustainable design studio get the opportunity of individually defining the focus of their investigation

Course contents

We aim at developing a new and sustainable Architecture by investigating the architectural design potential within the principles of Sustainability.

Disposition

The micro-macro studio sets special focus on development of a specific and personal graphic/technical precision via 2d/3d drawing and physical architectural working/design models. The design process will be studio based, methodical and lead from an abstract investigation to a concrete implementation

Course literature

Recommended reading/handbooks for

Climate Design
1. Climate Design: Solutions for Buildings that Can Do More with Less Technology by Gerhard Hausladen, Michael de Saldanha, Petra Liedl, and Christina Sager
2. Energy Manual: Sustainable Architecture by Manfred Hegger, Matthias Fuchs, Thomas Stark, and Martin Zeumer
3. Sustainability, Ed Melet
4. Smartness, Ed van Hinte

Tectonics
1. Lightness, Ed van Hinte
2. Deplazes: Constructing Architecture,
3. Structures of Jürg Conzett, AA publication
4. Die Unschuld des Betongs, ed Arthur Rüegg
5. Cecil Balmond: Informal
6. Timber engineering – the swiss contribution

Equipment

Portable computer with possibility to connect to wireless (school) network
and/or 2d set of drawing tools, sketch paper
Tools for model building

Examination

- PRO2 - Project part 2, 3.0 credits, grading scale: P, F
- PRO1 - Project part 1, 9.0 credits, grading scale: P, 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.

The course consists of two parts; a fulfilled and delivered project work (9 credits) and a passed final assessment (3 credits). There is at least one intermediate assessment during the course.

Other requirements for final grade

a) Presentation requirements
Delivery of all intermediate and final hand-ins is a requirement for final grade.

The studio presentation will be part of the future diploma portfolio and shall be delivered in an appropriate and fully qualified way.

b) Examination
80% attendance. Active participation in lectures, tutorials, and seminars etc. Passed intermediate and final assessments. Compulsory attendance during the assessment reviews. Completion: The project work shall be delivered and, if necessary, reworked within the set time limit. See general directions.
(Overall principle: Autumn term projects must be approved during the following Spring term: Spring term projects must be approved before the start of the following Autumn term. The reworked projects must be delivered at least one week before the time limit.)
The project work is to be documented in a portfolio, including drawings, analysis and models. The work process shall be legible.

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.