

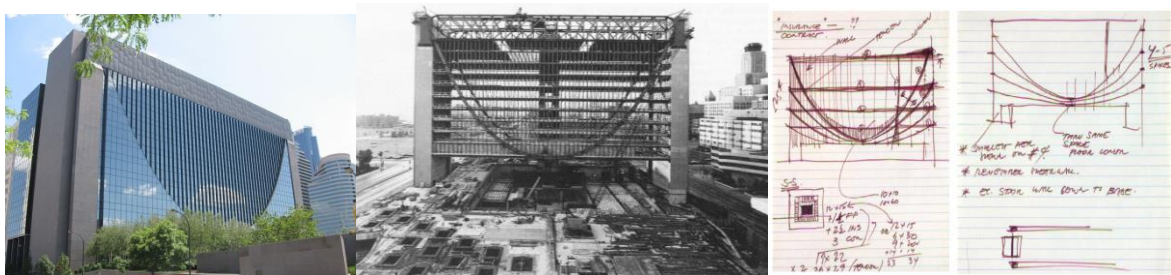
VSMN15, Integrated Design: Structural Design – Architectural Design, 7,5 credits

AAHN10, Integrated Design: Architectural Design – Structural Design, 7,5 credits

Course programme spring 2019

Introduction

The goal is to establish a common conceptual framework for the construction, optimization and architectural expression, in the interaction between engineers and architects during the last part of their training. The course is designed to run as a number of projects in which both engineers and architects will contribute to shaping, based on their individual professionalism. Some elements might be carried out individually by various student categories, but the key passages to be implemented jointly.



Course lay out

The course consists of a number of *lectures* introducing various examples, building a shared understanding of how we can consider structures. This common understanding also forms the basis for a dialogue-shaped design process starting from architects and engineers' skills.

Architects and engineers will work together with one smaller task ("Task A") and one project related to the studio projects – "Productive cities". The project will be divided into three assignments ("Assignment 1 – 3").

You will work in groups, consisting of architects engineers. Consultation takes place mostly in these groups. Consultation is scheduled and some consultation is compulsory, see next page.

Examination and compulsory attendance

The examination of the course is based on the active participation in the tasks and in the consultation. This means that all group members must be active and contribute to the groups' work. Thus, all students must attend at least 75% of the scheduled lectures, presentations and compulsory consultations (and attend all presentations done by their group). All students must participate in and actively contribute to all compulsory tasks and projects, i.e. tasks A + the studio project assignments 1 – 3. To verify the active participation, attendance lists will have to be signed at each lecture/presentation. Notes will be taken by the teachers during consultation, in order to document the activity of all group members. During presentations/critique all members of a group must be prepared to answer for the complete group. Grading in the course is pass/no pass (godkänd/underkänd). ECTS-grading is not used, see [LTH-webpage](#).

Course schedule (revisions)

Week	Day	Date	Start	End	Topic/Activity	Room	
4	Tue	2019-01-22	08:00	10:00	Course introduction, course admin and introduction to Task A (ES, CM, AvB, DK)	A:B	Task A
4	Tue	2019-01-22	13:00	17:00	Work with Task A, short presentation and feedback.	A:3011	
5	Tue	2019-01-29	08:00	10:00	Lecture 1. Material, shape, force and structures (ML, KGO) Intro to projects – Assignment 1	A:B	Projects A1
5	Tue	2019-01-29	13:00	17:00	Work with Assignment 1	A:3011	
6	Tue	2019-02-05	08:00	10:00	Lecture 2. Productive city, CM, ES	A:B	
6	Tue	2019-02-05	13:00	17:00	Work with Assignment 1, consultation, compulsory (ES, AvB, DK)	A:3011	
7	Tue	2019-02-12	08:00	10:00	Lecture 3. Early stage design, (MF)	A:B	Projects A1
7	Tue	2019-02-12	13:00	17:00	Critique Assignment 1, (ES, CM, AvB, DK) Intro Assig. 2	A:3011	
8	Tue	2019-02-19	08:00	10:00	Lecture 4 Wood/Timber projects (AvB/ES)	A:B	Projects A2
8	Tue	2019-02-19	13:00	17:00	Work with A2, consultation available	A:3011	
9	Tue	2019-02-26	08:00	10:00	Work with Assignment 2	A:B	
9	Tue	2019-02-26	13:00	17:00	Work with Assignment 2, consultation, compulsory (ES, AvB, DK)	A:3011	Projects A2
10	Tue	2019-03-05	08:00	13:00	Critique Assignment 2 (ES, CM, AvB, DK)	A:3011	
13	Mon	2019-03-25	08:00	10:00	Work with Assignment 3	Studio	Projects A3
13	Mon	2019-03-25	13:00	17:00	A3 consultation, compulsory (ES, AvB, DK)	Erik's room, 5 th floor. V:building	
14	Mon	2019-04-01	08:00	10:00	Work with Assignment 3	Studio	
14	Mon	2019-04-01	13:00	15:00	Work with Assignment 3	Studio	Projects A3
15	Mon	2019-04-08	08:00	10:00	Final critique (ES, CM, AvB, DK)	A:3011	
15	Mon	2019-04-08	13:00	17:00	Final critique (ES, CM, AvB, DK)	A:3011	

*=To be announced

Deadlines

The work should be handed in by uploading to shared Dropbox folder no later than:

Task A – Tuesday, 22nd of January, 24:00 (Task finalized during the day).

Studio projects, Assignment 1 – Monday 11th of February, 24:00

Studio projects, Assignment 2 – Monday 4th of March, 24:00

Studio projects, Assignment 3 – Friday 5th of April, 24:00

Teachers

Erik Serrano (ES), erik.serrano@construction.lth.se

Christer Malmström (CM), christer.malmstrom@arkitektur.lth.se

Alex van de Beld (AvB), Alex@albsurroundings.com

David Kinsella (DK), david.kinsella@construction.lth.se

+ Guest teachers (Morten Lund (ML), Chalmers, Karl-Gunnar Olsson, Chalmers (KGO), Martin Fröderberg, Tyréns AB (MF))

Reference literature

Conceptual Structural Design, Olga Popovic Larsen and Andy Tyas, ISBN 0-727732

Form and forces: designing efficient, expressive structures, Edward Allen and Waclaw Zalewski.

Shell Structures for Architecture - Form Finding and Optimization, Sigrid Adriaenssens et al.

Engineering a new Architecture, Tony Robin ISBN 0-300-06116-1

Finding Form, Frei Otto, Bodo Rash, ISBN 3-930698-66-8

Structure & Architecture, Angus J Macdonald, ISBN 0-7506-4793-0

Structural Order in Space, Ture Wester, ISBN 87-981698-0-7

Building Structures, Malcolm Millais, ISBN 0-419-21970-6