

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

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

Course programme spring 2017

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 in four tasks: three smaller projects (“Task A-C”) and one somewhat larger project related to the “European” competition.

During week 8 (20th of February – 24th of February) a computer-based exercise - Task C - will be performed.

You will work in groups, typically consisting of 4-5 architects and 2 engineers. Consultation takes place mostly in these groups. Consultation is scheduled, 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 and presentations (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, B and C + the European-related project. 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 (subject to changes)

Week	Day	Date	Start	End	Topic/Activity	Room
3	Tue	2017-01-17	08:00	10:00	Course introduction (ES, CM, GS, DA, AvB, VA), short lecture (GS), course admin and introduction to Task A (ES)	A:B
3	Tue	2017-01-17	13:00	17:00	Work with Task A, short presentation and feed back.	A:3011
4	Tue	2017-01-24	08:00	10:00	Lecture 1, David Andréen	A:B
4	Tue	2017-01-24	13:00	17:00	Introduction Task B, work Task B	A:3011
5	Tue	2017-01-31	08:00	10:00	Lecture 2 Göran Sandberg	A:B
5	Tue	2017-01-31	13:00	17:00	Work with Task B	A:3011
6	Tue	2017-02-07	08:00	10:00	Lecture 3. Christer Malmström	A:B
6	Tue	2017-02-07	13:00	15:00	Guest lecture and hands-on exercise. "Structurally informed design", Cecilie Brandt-Olsen , Format Engineers Ltd.	A:3015
			15:00	17:00	Task B. Consultation available	A:3015
7	Tue	2017-02-14	08:00	10:00	Task B. Consultation available	A:B
7	Tue	2017-02-14	13:00	17:00	Presentation Task B	A:3011
8	Tue	2017-02-21	08:00	10:00	TASK C – Computer exercise	A:1031
8	Tue	2017-02-21	13:00	17:00	TASK C – Computer exercise	A:1031
9	Tue	2017-02-28	08:00	10:00	Introduction to "Europan"	A:3015
9	Tue	2017-02-28	13:00	17:00	Work with Europan-related project	A:3015
12	Mon	2017-03-20	08:00	10:00	Lecture 4. Alex v. de Beld, Erik Serrano	A:B
12	Mon	2017-03-20	10:00	12:00	Project consultation, <u>compulsory</u>	TBA*
12	Mon	2017-03-20	15:00	17:00	Project consultation, <u>compulsory</u>	TBA
13	Mon	2017-03-27	08:00	12:00	Work with Europan-related projects	TBA
13	Mon	2017-03-27	15:00	17:00	Work with Europan-related projects	TBA
14	Mon	2017-04-03	08:00	12:00	Mid critique, Europan-related projects	TBA
14	Mon	2017-04-03	15:00	17:00	Mid critique, Europan-related projects	TBA
17	Mon	2017-04-24	08:00	12:00	Project consultation, <u>compulsory</u>	TBA
17	Mon	2017-04-24	15:00	17:00	Project consultation, <u>compulsory</u>	TBA
18	Wed	2017-05-03	08:00	10:00	Project consultation available	TBA
18	Wed	2017-05-03	13:00	17:00	Project consultation available	TBA
19	Mon	2017-05-08	08:00	12:00	<u>Final critique, Europan-related projects</u>	TBA
19	Mon	2017-05-08	15:00	17:00	<u>Final critique, Europan-related projects</u>	TBA

*=To be announced

Deadlines, Task A-C

Tasks A-C should be handed in by uploading to shared Dropbox folder no later than:

Task A – Monday, 23rd of January, 24:00

Task B – Monday, 13th of February, 24:00

Task C – Friday, 24th of February, 24:00, (Task finalized during the computer exercise).

Europan-related projects – Sunday 7th of May, 24:00

Teachers

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

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

David Andreén, (DA), david.andreen@arkitektur.lth.se

Vedad Alic (VA), vedad.alic@construction.lth.se

Göran Sandberg (GS), goran.sandberg@construction.lth.se

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

+ Guest teachers

Reference literature

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

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

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