

KURSPLAN

Konceptuell utformning av byggnader 5 högskolepoäng S7011B

Conceptual design of buildings

Kursplan antagna: Höst 2014 Lp 1 - Höst 2015 Lp 2

**BESLUTSDATUM
2014-02-10**

Konceptuell utformning av byggnader 5 högskolepoäng S7011B

Conceptual design of buildings

Avancerad nivå, S7011B

Utbildningsnivå

Avancerad nivå

Fördjupningskod

A1F

Betygsskala

U G#

Ämne

Stålbyggnad

Ämnesgrupp (SCB)

Byggteknik

Ingår i huvudområde

Väg- och vattenbyggnad

Behörighet

S7004B Stålkonstruktioner

Urval

Urvalet grundas på 30-285 högskolepoäng

Examinator

Milan Veljkovic

Mål/Förväntat studieresultat

The students should, after the successful accomplishment of the course, be able to conceptually design a building through the selection, in a wide range of structural solutions. They will be able to choose the most appropriate solution based on the comprehensive analysis of various possibilities. To achieve these skills, students will not only rely on their knowledge of technical solutions, but also on their acquired ability to integrate various conceptual aspects such as the feasibility and the economy of the project.

Kursinnehåll

The course consists of two main parts: structural elements and systems, and the critical appraisal of construction techniques.

In the first part the structural elements and design situations of the basis are analysed, such as a member in tension, compression members and arches, trusses (plane and spatial), members in bending, connections, bracing systems, frames, conceptual aspects of buildings.

In the second part the critical appraisal of construction techniques is considered by analysing: beam or column elements made of steel, concrete, composite (steel-concrete elements), timber, rolled, builtup, with or without openings. In addition, connections: rigid, semirigid are considered in different structural elements made of steel or composite, timber. Construction of building elements such as floors made of concrete, composite, precast, slim floors. In addition, roofs, claddings are considered in multistorey and industrial application.

Students have to achieve the conceptual design of a particular building on the basis of assumed realistic design requirements provided by the lecturers within the 1st project. A feasibility study will also be carried out. In the 2nd project assignment students are asked to observe existing buildings, to select one of these and to analyse it.

Genomförande

Kursens undervisningspråk samt undervisningsform anges för varje kurstillfälle och framgår av kurssidan på Luleå tekniska universitets hemsida.

Lectures, project assignments and consultations.

Examination

Om det finns beslut om särskilt pedagogiskt stöd, i enlighet med Riktlinjen Studentens rättigheter och skyldigheter vid Luleå tekniska universitet, finns möjlighet till anpassad eller alternativ examinationsform.

För att erhålla godkänt slutbetyg krävs att alla inlämningsuppgifter och rapporten, på engelska är godkända.

Litteratur. Gäller från Höst 2014 Lp 1

Silva L.S., Simoes R., Gervásio, H.: Design of steel structures. ECCS Eurocode Design Manuals, Ernst & Sohn, 2010, 438 p.

Trahair N.S., Bradford M.A., Nethercot D.A., Gardner L.: The behaviour and design of steel structures to EC3. Taylor & Francis, 2008, 490 p.

Balio G., Mazzolani F.M.: Design of steel structures, FNSpon, London, 1999

Kursgivare

Institutionen för samhällsbyggnad och naturresurser (SBN)

Prov

Provuppsättning saknas

Kursplanen fastställd

av Eva Gunneriusson 2014-02-10