

BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS  
FACULTY OF CIVIL ENGINEERING  
CIVIL ENGINEERING BSC PROGRAM  
SPECIALISATION IN STRUCTURAL ENGINEERING

The aim of the Specialisation in Structural Engineering is to make students familiar with the complex engineering thinking connected to the design of halls and frame buildings. This will enable them to integrate and address in a complex way the topics of each of the specialisation subjects and to solve design problems requiring comprehensive knowledge. The aims of the specialisation subjects are to understand the design and concepts of structures, to develop engineering skills, to introduce complex design processes, to realise the interaction of building construction and structural design. During the competition of the specialisation the student becomes familiar with typical steel, reinforced concrete, timber and steel-concrete composite structural systems and their behaviour, gains the ability of applying the relevant design methods comprehensively, learns fundamental structural knowledge and engineering skills.

The Department of Structural Engineering has a strong background in the education of structural engineering design of buildings, both for steel, reinforced concrete, timber and steel-concrete composite structures. Some examples of the structural engineering structures we teach are: framed reinforced concrete structures, precast reinforced concrete structures, large span steel sports facilities (sports halls, exhibition halls), slab structures, steel-concrete composite beams and slabs, tower structures (communication towers, lookouts).

The Specialisation in Structural Engineering is recommended for students who cannot pass by a major construction site without admiring it. We recommend it to those who wish to participate in structural engineering tasks as a designer/constructor, or are interested in refurbishing and reconstructing old structures.

An engineer having graduated from Specialisation in Structural Engineering will be familiar with the loads and effects of buildings, the design methods of steel, timber, composite and reinforced concrete structures, has an understanding of the structural design standards and their background, and has knowledge on the typical structural systems and their corresponding behaviour of building structures. He/she knows structural solutions for bracing systems, connections, secondary members and slab systems, has knowledge of their construction and the principles of their design; understands the load bearing behaviour, the complex process of structural design, recognising the different fields of design and understand the interrelationships between them (building constructional, geotechnical, structural).

The student who has completed the Specialisation will be able to create models of structures, to determine the standardised loads and effects acting on structures. Has the ability to perform numerical analysis for static, stability and dynamic analysis of structures, and is able to perform the design of typical joints using the component method either by numeric or manual calculation, and can present the results of design process in the form of structural drawings and design documentation.

He/she is open to the use of information technology tools, strives for accurate and error-free problem solution, carries out the identification of general design tasks independently in the field of structural engineering, can provide solutions for them based on given sources, and can analyse structures individually.

Chair of Specialisation

Dr. László Kollár

professor

Department of Structural Engineering