Summary

The following report seeks to develop planning guidelines for the future organisational and resource demands of architecture and civil engineering at universities and universities of applied sciences *(Fachhochschulen)*. The decision to examine the disciplines jointly under the term “construction“ results not just from the overlap in the curricula and fields of employment, but also reflects the present situation in which the disciplines find themselves. The high unemployment levels among architects and declining student numbers in civil engineering, in conjunction with general reform calls within the higher education sector, the financial restrictions being imposed on public institutions and moves towards greater international compatibility signalled by the Bologne process, demand structural reform within this disciplinary field.

Against this background the report pays particular attention to the scope for **cooperation** between architecture and civil engineering, the specific opportunities possessed by the disciplines to develop a **defining profile** in a particular area and the complex of questions relating to the introduction of **Bachelor and Master** courses. Following structural analysis of teaching and research on these points, the implications of reform measures on human resources and building requirements are assessed.

Subject structures: Besides systematising the structure of this disciplinary area and highlighting the interfaces between the subjects, clear subject-specific profiles are drawn up for architecture and civil engineering as found at institutions of higher education.

Teaching: The analysis of the quantitative and qualitative structures of architecture and civil engineering courses points, on the one hand, to the curricular elements specific to these disciplines, highlights, on the other, the subjects taught in both courses and the scope – and limit – of cooperation arising from this overlap.

Research: The different methods used in research bring in their wake considerable variations in resource requirements. The report develops a typology of working methods which can be applied to both architecture and civil engineering, distinguishing between theoretical-conceptual, software-technical, artistic-design-based, experimental-analytical (laboratory and full-scale) and experimental-constructive (laboratory and full-scale) methods.

Organisation and human resources: Building on an analysis of alternative organisational structures and the possibilities for cooperation between faculties of architecture and civil engineering, the chapter develops staffing models for independent organisational structures as well as for joint faculties of construction and a faculty with a Bachelor-Master structure. These illustrate the scope of staff savings that can be achieved through greater cooperation and the adjustments that would have to be made in order to offer Bachelor and Master courses without incurring additional staffing requirements.

Space and floor planning: The chapter presents space ratios for use in planning architecture and civil engineering faculties. The differential approach applied in this report assesses the requirements of different space types and uses both the number of students and staff numbers as alternative planning parameters. Consideration is taken of differing profiles in architecture and civil engineering.

Requirement models: Requirement models link the space ratios for the various room types with the space requirements of individual organisational units to develop comprehensive requirement models. Alongside such models for faculties of different size and profile, the chapter develops a requirement model for a joint faculty of construction as well for a faculty of architecture at a university of applied science offering Bachelor and Master courses. On the basis of these, space norms and ratios are calculated which can be used for general planning purposes and rough estimates. These also illustrate the effects a particular focus or profile within an individual institution can have on space requirements.