

### **What and Why**

Syllabus of the technical subjects concerning Constructions is authorized by the Pedagogic Council of the Faculty and is coordinated with other subjects.

In the first part of the study (Bachelor Degree study duration four years) students get familiar with basic construction principles in Architecture. First years are aimed at terminology and graphics of civil engineering. Students mainly deal with three-dimensional design of elements, lay-outs, sections, views at different scales.

Step by step students get acknowledged with particular construction members of structures such as bearing walls, secondary walls, roofs and floors, stairs, and foundations so that after finishing the first year of study they are able to design the conception of a construction system.

The following year of study is devoted to roof constructions with small and large spans typical for hall structures. Study continues with skeletal structures. Students apply theoretical information from lectures in studio projects such as designing of administrative buildings or industrial buildings. In the last year students learn about construction details of structures.

### **How**

Subjects completely supporting the technical point of Architecture are as follows:

Building Construction I-V, Building Material, Building Physics, Statics I-II, Reinforced Concrete Structures, Steel and Timber Structures, Technical Equipment of Buildings I-II, which represent 28% of the whole education. The study program is realized in the form of lectures and compulsory practical classes. Within practicals students work on given tasks of their own and the subject is completed by examinations. Besides the obligatory technical subjects students can take additional subjects such as Fire Safety of Buildings, Applied Physics for Architects, Models of Structural Systems in Statics.

All technical subjects are in accordance with architectural education. At the same time students work on eight studio projects practically applying the knowledge gained in Building Constructions. Supervised by teachers they design construction systems of buildings and their details.

The final – fourth year of study is completed by a final state examination in Constructions. The exam is based on theoretical knowledge. The Final project is a design of an architectural building project. Successful defense of this thesis is the basic requirement for getting the diploma. A graduate of this study program can work as a member of a project-team or a self-standing project designer of small buildings.

The principle is that professors and associate professors deliver their lectures and assistants lead the seminars. Supervisor of studio works is (as a rule) a professor or an associate professor.

Tutors – specialists in studio works can also be assistants. Technical subjects dealing with building constructions are usually taught by teachers who are active in practice and who are licensed to perform as licensed architects and structural engineers. Our experience shows that teachers active in practice can better argue in discussions concerning projects.

Teachers are mostly members of the staff Faculty of Architecture, however often guests from other Faculties are invited as well as outstanding professionals from practice who externally participate in education.

## Who

**1. Bachelor Degree Study /B.Sc / (8 terms)** is a four-year program focusing on the basic orientation of Graduates in art, technical subjects and subjects concerning urban design. The main form of study is the design studio work /8 studio projects/.

## When and to What Extent

Technical subjects associated with Building Construction in Architecture are of a standard character and its curricula are as follows:

Year of Study	I		II		III		IV		Credits
	IWS	2SS	3WS	4SS	5WS	6SS	7WS	8SS	
Building Construction and Building Materials	2-2	2-2	2-2	2-2		2-1			4,4,4,4,3
Building Physics			2-1						3
Technical Equipment of Buildings I, II				2-1	2-1				3,3
Static's I, II					2-1	1-1			3,2
Reinforced Concrete Structures								2-1	3
Steel and Timber Structures						2-1			3
Architectural Design – Planning Permaton								0-16	16

The study program in all its branches is completed by a state final examination in Theory and History of Architecture, Theory and History of Urban Planning and Theory of Building Construction. In addition they defend their B.Sc. thesis. Graduates receive the degree.

**2. Master Degree Study /Ing. Arch./ (4 terms)** is a two-year program aiming at improving professional abilities in selected branches: Housing Design, Public Buildings Design, Industrial and Production Buildings Design, Interior, Exhibition, Stage Design, Monument Preservation and Design in

Historical Areas, Designing in Architecture, Ecological and Experimental Design and **Progressive Constructions**. The main form of study is an integrated design studio work /3 studio projects/. Design of new structural systems and architectural detail form the basis of the student original creativity.

Students must take exams in the following technical subjects:

Year of Study Semester	V		VI		Credits
	9WS	10SS	11WS	12SS	
Trends in Architectural Design	2-0				2
Current Trends in Construction Systems	1-1				2
Coordination of Technical Parameters			1-1		2
Integrated Architectural Design	0-11	0-11	0-12		14, 14, 15
Diploma project				8 weeks	

Student, whose major is Constructions in Architecture must take additional subjects: Energy Efficiency of Buildings, Applied Physics for Architects, Daylight and Acoustics in Architectural, Principles of Structural Design of Load-Bearing Structures, Fire Safety of Buildings, Intelligent and Healthy Buildings, Structural Details in Architecture, Glass in Architecture, Studio Seminar on New Structural Systems and Building Details.

**3. The Faculty offers Doctoral Degree Study /PhD/.** The study is based on the original, individual scientific and research work of a student on Architectural Construction.

Main research areas: Influence of Renewable Power Sources in Architecture, Low Energy Systems in Architectural Design, Fire Safety in Architectural Design, Comfort of Intelligent Buildings, Constructional Indicators in Architectural Design, Tectonics in Current Architecture.

### Virtual Reforms

Constructions are an inseparable part of Architecture. Architecture without Constructions is like a body without bones. Study program in Construction at the Faculty of Architecture is an important part of Architectural education and requirements on knowledge in this field are growing.

We consider very important that the Departments oriented at Constructions and Technical subjects belong directly to Architectural Schools and not to other Faculties and schools such as Civil Engineering.

Architectural and technical subjects educated at the Faculty of Architecture co-influence each other and represent a good background for architectural compositions as well as constructions.



### “The Teaching of Construction in Architectural Education”

#### What and why

Syllabus of the technical subjects concerning Constructions is authorized by the Pedagogic Council of the Faculty and it is coordinated with the other subjects.

In the first part of the study (Bachelor Degree study lasting 4 years) students get familiar with basic construction principles in Architecture. First years are aimed at terminology and graphics of civil engineering. Students mainly deal with 3-dimensional design of elements, lay-outs, sections, views in different scales.

Step by step students get acknowledged with particular construction members of structures as e.g. bearing walls, secondary walls, roofs and floors, stairs, and foundations so that after finishing the first year of study they are able to design the conception of a construction system.

Next year of study is devoted to roof constructions with small and large span typical for hall structures. Study continues with skeletal structures. Theoretical information from lectures students apply in studio projects as designing of administrative buildings or industrial buildings. In the last year students learn about construction details of structures.

#### How

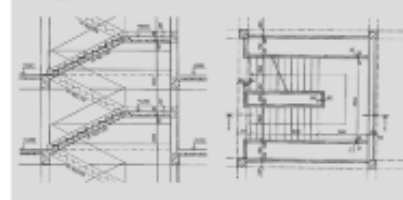
Subjects completely supporting the technical point of Architecture are as follows: Building Construction I-V, Building Material, Building Physics, Statics I-II, Reinforced Concrete Structures, Steel and Timber Structures, Technical Equipment of Buildings I-II, which together represent 26% of the whole education. Study program is realized in the form of lectures and compulsory practical classes. Within practicals students work on given tasks on their own and the subject is completed by examinations. Besides the obligatory technical subjects students can take additional subjects as e.g. Fire safety of Buildings, Applied Physics for Architects, Models of Structural Systems in Statics.

All technical subjects are in accordance with architectural education. At the same time students work on 8 studio projects practically applying the knowledge gained in Building Constructions. Supervised by teachers they design construction systems of buildings and the belonging details. The final fourth year of study is completed by a complex state examination in Constructions. The exam is based on theoretical knowledge. The Final project is a design of an architectural building project. Successful defence of this thesis is the basic requirement for getting the diploma. A graduate of this study program is educated for working as a member of a project team or a self-standing project designer of small buildings.

#### BUILDING CONSTRUCTION I



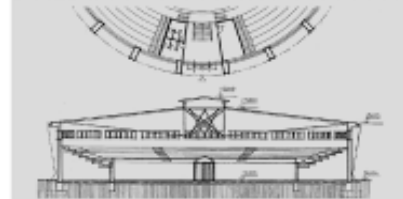
#### BUILDING CONSTRUCTION II



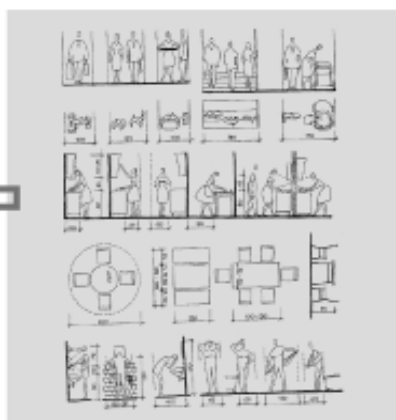
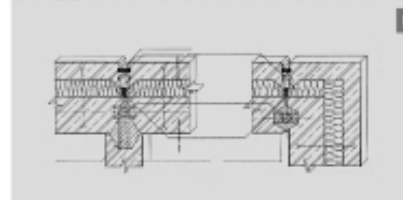
#### BUILDING CONSTRUCTION III



#### BUILDING CONSTRUCTION IV

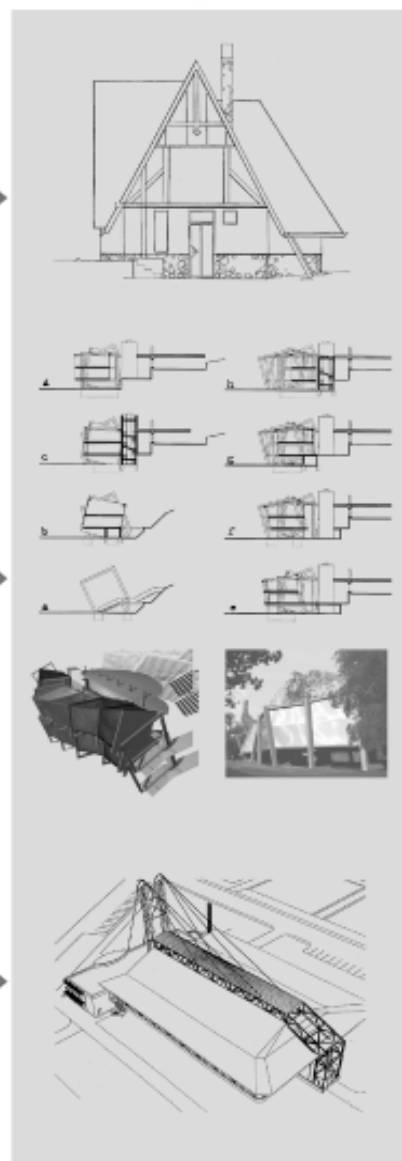


#### BUILDING CONSTRUCTION V



Mathematics  
 Descriptive Geometry I, II  
 Building Physics  
 Technical Equipment of Buildings I, II  
 Statics I, II  
 Reinforced Concrete Structures  
 Steel and Timber Structures  
 Basics of CAD I, II  
 Building Economics  
 Urban Economics  
 Drawing I, II  
 Architectural drawing  
 Modelling and Sculptural Techniques  
 C o l o u r  
 Fine Arts in Architecture  
 Architectural and Urban Composition I, II  
 History of Architecture and Art I, II, III, IV, V  
 History of Towns  
 Culture and History of Architectural Thinking  
 Theory of Architecture  
 Psychology and Sociology of Architecture  
 Barrier-free design  
 Ecologically Determined Design  
 Housing Buildings  
 Public Buildings I, II  
 Landscape Architecture  
 Production Buildings, Engineering Structures  
 Interior Design  
 Restoration of Monuments  
 Urban Areas and Settlements I, II  
 Town Planning

Energy Effectiveness of Buildings  
 Applied Physics for Architects  
 Daylight and Acoustic in Architecture  
 Principles of Structural Design of Load-Bearing Structures  
 Fire Safety of Buildings  
 Intelligent and Healthy Buildings  
 Structural Details in Architecture





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The principle is that the professors and associated professors deliver the lectures and assistants lead the seminars. Supervisor of studio works is (as a rule) a professor or associated professor. Tutors, specialists in studio works can be also assistants. Technical subjects dealing with building constructions are usually taught by teachers who are active in practice and who are licensed to perform as licensed architects, statics, and structural engineers. Our experience shows that teachers active in practice can better argue in discussions concerning the projects. Teachers are mostly members of the Faculty of Architecture staff, however often guests from other Faculties are invited as well as outstanding professionals from practice who externally participate on education.

### When and to What Extend

1. Bachelor Degree Study (B.Sc./ (8 terms) is a four-year program focusing on the basic orientation of Graduates in art, technical subjects and subjects concerning urban design. The main form of study is the design studio work /3 studio projects/. Technical subjects associated with Building Construction in Architecture are of a standard character and its curricula are as follows:

Year of Study	I				II		III		IV		Credits
Semester	WS	SS	SSS	SSS	WS	SS	WS	SS	WS	SS	
Building Construction and Building Materials	2-2	2-2	2-2	2-2			2-1				4,4,4,4,3
Building Physics			2-1								3
Technical Equipment of Buildings I, II				2-1	2-1						3,3
SB/S/1, II					2-1	1-1					3,2
Reinforced Concrete Structures									2-1		3
Steel and Timber Structures							2-1				3
Architectural Design - Planning /Promotion									0-1,6		1,6

The study program in all its branches is completed by a state final examination in Theory and History of Architecture, Theory and History of Urban Planning and Theory of Building Construction. In addition they defend their B.Sc. thesis. Graduates receive a degree.

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Year of Study	V				VI		Credits
Semester	WS	SSS	SSS	SSS	SSS	SSS	
Trends in Architectural Design	2-0						
Current Trends in Construction Systems	1-1						3
Coordination of Technical Parameters				1-1			3,3
Integrated Architectural Design	0-1,1	0-1,1		0-1,2			3,2
Thematic Project					4 weeks		3

Student, whose major is Constructions in Architecture must take additional subjects: Energy Effectiveness of Buildings, Applied Physics for Architects, Daylight and Acoustics in Architectural Principles of Structural Design of Load-Bearing Structures, Fire Safety of Buildings, Intelligent and Healthy Buildings, Structural Details in Architecture, Glass in Architecture, Studio Seminar on New Structural Systems and Building Details.

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### Diploma project

