HOCHSCHULE KOBLENZ
UNIVERSITY OF APPLIED SCIENCES

ARCHITECTURE

HANDBOOK SYLLABUS
BACHELOR OF ARTS B.A.

Date 02.11.2020

FACULTY:	b–k–w, construction–art–materials
DEPARTMENT:	Architecture
STUDY- PROGRAM:	Architecture, 3 years, full time, 180 ECTS
DEGREE:	Bachelor of Arts (B.A)

HOCHSCHULE KOBLENZ
UNIVERSITY OF APPLIED SCIENCES

Architecture

Bachelor of Arts (B.A.)

	1. Semester	2. Semester	3. Semester	4. Semester	5. Semester	6. Semester
Design projects (studios)	B-E1 - EIS **Design principles-1** 5 ECTS / 4 SWS	B-E2 - EIS **Design principles 2** 5 ECTS / 4 SWS	B-EP1* - POE **1st Architectural design project 1** 5 ECTS / 4 SWS	B-EP2* - DE **2nd Architectural design project 2** 5 ECTS / 4 SWS	B-EP3* -EIS / B-SP2-SPE **3rd architectural or 2nd urban design project** 7,5 ECTS / 6 SWS	B-THS2 – RUO **Bachelor thesis project** 12 ECTS
			* Design Studios EP1/2/3 options: Conversion Planning, Public buildings, Housing, International.			B-THS1- RUO **Thesis seminar** 3 ECTS / 2 SWS
Construction & Technology	B-BK1 - NN **Construction 1** 5 ECTS / 4 SWS	B-BK2 - NN **Construction 2** 5 ECTS / 4 SWS	B-BK3 - NN **Construction 3** 5 ECTS / 4 SWS	B-BK4 -NN **Construction 4** 5 ECTS / 4 SWS	B-IP - RUO **Technology-integrating project** 5 ECTS / 4 SWS	
	B-BT - JO **Material science & Technical services** 5 ECTS / 4 SWS		B-BB -RUO **Building physics & Fire protection** 7,5 ECTS / 6 SWS			
	B-TK1 - NN **Structures 1** 2,5 ECTS / 3 SWS	B-TK2 - NN **Structures 2** 5 ECTS / 6 SWS				
History & Theory	B-TH1 - NN **History of urban development & architecture** 5 ECTS / 4 SWS	B-TH2 - NN **History of architecture** 5 ECTS / 4 SWS	B-GL - POE **Typology and Housing** 5 ECTS / 4 SWS			
Representation & Communication	B-DG1 - NN **Depiction /descript. geometry 1** 5 ECTS / 4 SWS	B-DG2 - NN **Depiction /descript. geometry 2** 5 ECTS / 4 SWS				
	B-DP1 - IM **Digital processes 1** 5 ECTS / 4 SWS	B-DP2 - IM **Digital processes 2** 5 ECTS / 4 SWS		B-DP3 - IM **Digital processes 3** 5 ECTS / 4 SWS		
Urban development			B-S - SPE **Theory of urban design** 5 ECTS / 4 SWS	B-SP1 - SPE **Urban design project 1** 5 ECTS / 4 SWS	B-SLR - THO **Strategies for rural areas** 5 ECTS / 4 SWS	
Management & Law			B-B1 - RUE **Construction management 1** 5 ECTS / 4 SWS	B-B2 - RUE **Construction management 2** 5 ECTS / 4 SWS	B-R - SPE **Law** 5 ECTS / 4 SWS	
Electives: seminars field trips, studium generale					B-WM - THO **Electives** 2,5 ECTS / 2 SWS	B-WM - THO **Electives** 5 ECTS / 4 SWS
					B-WM - THO **Electives** 5 ECTS / 4 SWS	B-WM - THO **Electives** 5 ECTS / 4 SWS
						B-WM - THO **Electives** 5 ECTS / 4 SWS

SYLLABUS

HANDBOOK ARCHITECTURE, Bachelor of Arts B.A.

Study program	Architecture, 3 years, full time, 180 ects
Degree:	Bachelor of Arts (B.A.)
University:	University of Applied Sciences Koblenz
Faculty:	b – k – w / construction – art – materials
Department:	Architecture
	Campus RMC
	Konrad Zuse Str. 1
	D – 56 075 Koblenz
	Germany
	+49 (0)261 9528 600
URL	https://www.hs-koblenz.de/architektur/die-fachrichtung
International	https://www.hs-koblenz.de/architektur/archinternational/information-for-incomings
Head of Department	Prof. Dipl.-Ing. Ulof Rückert
Head of Program	Prof. Dipl.-Ing. Henrike Specht

Representative for International affairs: Prof. Dipl.-Ing. Dagmar Eisermann, eisermann@hs-koblenz.de

ECTS	European Credit Transfer System (Erasmus), 1 ECTS = 25-30 hours workload time
SWS	Semester hours per week (45 min.), during lecture period

Chairs:

Economy, managemant & conversion planning	Prof. Dipl.-Ing. Ulof Rückert	RUE
Building physics, climate appropriate architecture & design	Prof. Dipl.-Ing. Jo Ruoff	RUO
Construction & arch. design	Prof. NN	
Design principles & arch. design	Prof. Dipl.-Ing. D. Eisermann	EIS
Digital processes in architecture & arch. design	Prof. Dipl.-Ing. (FH) M.A. Marc Immel	IMM
History and theory of architecture & arch. design	Prof. NN	
Housing and construction & arch. design	Prof. Dipl.-Ing. (FH) Georg Poensgen	POE
Material science and technical services & arch. design	Represent. Prof. Dipl.-Ing. Stephan Jost	JO
Strategies of rural areas	Prof. Dipl.-Ing. (FH) Peter Thomé	THO
Structural engineering	Prof. NN	
Urban development and urban design	Prof. Dipl.-Ing. Henrike Specht	SPE
Accademic staff and scientific research assistants:	https://www.hs-koblenz.de/architektur/team	

Date: 18.02.2021

Architecture

Bachelor of Arts (B.A.)

B-B1

Construction Management 1
Responsible
Prof. Dipl.-Ing. Ulof Rückert
Lecturer
Prof. Dipl.-Ing. Ulof Rückert
Prerequisite **-**

3. Semester

Competences and learning outcomes

Upon completion of the module students should

• be familiar with and know how to classify work processes both in the planning phase as well as in the execution of the construction work.
• likewise be able to assess and critically reflect upon putting it into practice.

Contents / teaching programme

Students are to be made familiar with the organisational, economic and structural requirements and those prevailing under public procurement law when planning and completing building projects.
The module provides a first theoretical introduction into the theory of construction management issues: parties involved in construction, professional profile of an architect, planning stages and HOAI, service contract and contract law in general, construction contract, inspection and approval, quality management in building and construction, call for tender ... etc. The fundamentals of scheduling and cost planning are presented and trained and site-specific questions are raised such as equipment needed at construction site, accident prevention, safety at work, dimensional tolerance, etc. Students should be made familiar with the economic marginal conditions and those in light of public procurement law when planning and handling building projects.

Teaching and supervision methods
Lectures and tutorials

Scope/Type

Classroom teaching	60 hours
Self-study	90 hours
term	1 semester
offered	each academic year
Type of examination.	oral exam

Total lessons taught per week during semester
4 lessons in 3rd semester

Credits
5 ECTS in 3rd semester

Architecture

Bachelor of Arts (B.A.)

B-B2

Construction Management 2

Responsible Prof. Ulof Rückert
Lecturer Prof. Ulof Rückert
Prerequisite: -

3. Semester

Competences and Learning Outcomes

Upon completion of the modules students should

• be able to apply the BIM planning method and by using this method do the necessary planning work with respect to schedule and budget
• be able to assess its implementation into practice and reflect upon it critically

Contents / Teaching program

Contents taught in the module include the following focus areas:
• Legal framework with respect to collaborative BIM models
• How to use AIA (Requesting information about the contracting entity) and BAP (BIM schedule) in relation to the BIM planning method
• Using 3-dimensional building models to determine quantities as well as inherent inconsistencies contradicting VOB
• Using 3-dimensional building models for the dynamic performance description; scheduling construction work using an exemplary software for the BIM planning method

Teaching and Supervision Methods
Lectures and tutorials

Scope/Type

Classroom teaching	60 hours
Self-study	90 hours
Term	1 Semester
Offered	each academic year
Type of examination	oral exam

Total lessons taught per week during semester
4 lessons in 4th semester

Credits
5 ECTS in 4th semester

Architecture

Bachelor of Arts (B.A.)

B-BK1

1. Semester

Construction 1

Responsible Prof. NN
academic staff, lecturers

Prerequisites -

Competences and Learning Outcomes

Students are familiar with fundamental basics of masonry construction and can assess these in light of structural physical, mechanical and material-specific correlations.
Students are able to recognize that design and shape are interdependent. Structural elements are used in a manner that makes sense with respect to construction and design to accommodate the needs of the specific situation.

Contents / Teaching program

In module B-BK1 students are taught basic knowledge about the techniques of how to join together construction elements and likewise how to handle those elements. The main target is to establish an understanding of physical, mechanical and material-specific coherences as well as an awareness how to sensibly use these components in light of design and creativity. This module is closely tied to module B-BT.

The key elements of solid construction are taught in classroom lessons:
Excavation, foundation, sealing, brickwork, ceiling, roofing, wall cladding.

Tutorials refer to lectures.
Alongside with attending lectures, students document a construction site using text and image. As part of a semester tutorial a small house is designed and with respect to a stonework-appropriate construction method, ceiling and roof design and roof drainage is worked on more in-depth.

Teaching and Supervision Methods
Lectures, supervised tutorials, support given by tutors especially with a view to – model construction, visualising, architectonic drawing

Scope/Type

Classroom teaching	60 hours
Self-study	90 hours
Term	1 semester
Offered	each academic year
Type of examination	project work

Total lessons taught per week during semester
4 lessons in 1st semester

Credits
5 ECTS in 1st semester

Architecture

Bachelor of Arts (B.A.)

B-BK2

1. Semester

Construction 2
Responsible Prof. NN,
Lecturers academic staff, lecturers

Prerequisite -

Competences and learning outcomes

Students learn further key fundamentals of masonry construction and are able to assess these in the context of mechanical, physical and material-specific correlations.
Students have the capacity to technically accurately join together construction elements so that they make sense in view of design and situation specifics.

Contents / Teaching program

Module B-BK2 teaches basic knowledge of how to join together structural components and how to handle those elements. The main target is to establish an understanding of physical, mechanical and material-specific coherences as well as an awareness of how to sensibly use these components in terms of design and creativity.
Supplementing module B-BK1 further key elements of solid construction are covered: Windows, flat roof, rooftop terrace, green roof, exposed brickwork, tin roof, additional wall coverings.

Tutorials refer to lectures.
Prime connection points are depicted in detail and in line with the blueprint for the small house , which was drafted up in semester 1 in module B-BK1 - taking into consideration the design objectives

Teaching and Supervision Methods
Lectures, supervised tutorials, tutor support especially with a view to visualisation, architectonic drawing

Scope/Type

Classroom teaching	60 hours
Self-study	90 hours
Term	1 semester
Offered	in each academic year
Type of examination	project work

Total lessons taught per week during semester
4 lessons in 2nd semester

Credits
5 ECTS in 2nd semester

Architecture

Bachelor of Arts (B.A.)

B-BK3 **1. Semester**

Construction 3

Responsible Prof. NN

Lecturers Prof. NN academic staff

Prerequisite -

Competences and learning outcomes

Students are familiar with the key fundamentals of timber construction as well as previous modules with complementary additional elements used for interior finishing work. Likewise, they know the production process of wood materials and wood components.

Timber construction principles are applied technically correctly and so that they make sense in view of design.

Contents / teaching program

Teaching the basics on how to build with the material wood.
Students are empowered to confidently do their design work with wood as material as well as with elements used for interior finishing. This involves a holistic understanding of complex interrelations of architecture and structural design.

Lectures and tutorials based on the subject of design work with wood as well as general interior work. Students add to the basic knowledge they have acquired in previous semesters on the technique of joining structural elements, elements for interior design, stairways as well as post and mullion construction. Field trips to businesses involved in timber work.

Semester tutorial: Designing a timber construction paying particular attention to finding the wood structure system suitable for the purpose and considering material-specific planning.

Teaching and Supervision Methods
Lecture, supervised tutorial, field trip

Scope/Type
Classroom teaching 60 hours
Self-study 90 hours
Term 1 semester
Offered in each academic year
Type of examination project work

Total lessons taught per week during semester
4 lessons in 3rd semester

Credits
5 ECTS in 3rd semester

Architecture

Bachelor of Arts (B.A.)

B-BK4 **2. Semester**

Construction 4

Responsible Prof. NN

Lecturers Prof. NN, academic staff, lecturers

Prerequisite -

Competences / learning outcomes

Students are familiar with the key fundamentals of timber construction as well as those of previous modules about complementary further elements of interior finishing work. They know outstanding wooden structures from their personal experience.

Wooden components as well as finishing elements are joined together technically correctly and so that they make sense in view of design.

Contents / teaching program

Imparting basic knowledge on how to build with wood as material and how to design energy-efficient buildings.
Students should be enabled to use the building material wood as well as general interior fittings as design materials. This involves a holistic understanding of complex interrelations of architecture and structural design.
Lectures and tutorial about designing with wood as well as characteristics of the design for energy-efficient and sustainable buildings
Field trips to outstanding wooden structures.
Semester exercise: The main connection points for the wooden structure designed in module B-BK3 in the 3rd semester are outlined according to the construction documentation taking into account the design objectives.
Key aspects of the work in 4 semester: Detailed planning with wood as material, taking material properties into account

Teaching and supervision methods
Lecture, supervised tutorial, field trip

Scope/Type

Classroom teaching	60 hours
Self-study	90 hours
Term	1 semester
Offered	in each academic year
Type of examination	project work

Total lessons taught per week during semester
4 lessons in 4th semester

Credits
5 ECTS in 4th semester

Architecture

Bachelor of Arts (B.A.)

B-BP **3. + 4. Semester**

Building physics / Fire p rotection

Responsible Prof. Jo Ruoff
Lecturers Prof. Jo Ruoff, lecturers

Prerequisite -

Competences / learning outcomes

Students shall gain the ability to understand the relevant physical phenomenons on which the contents below are based and to apply those in specific architectural situations. Likewise they are encouraged to practise the development of alternatives in any given situation. For this purpose they learn to recognize the relevant parameters and to strike a balance between them and, if appropriate, modify them in order to develop solutions that make sense in view of building physics. This means being able to recognize the constructional as well as any design-related consequences so that they can be embedded in the design concept.
Students should be enabled to comprehend the basic terms of fire protection and learn to apply them in their architectural work. In doing so they should specifically learn to understand the viewpoint of the specialist engineers and the fire fighters in order to derive the conceptual consequences.
Finally, students should know how to engage in a technical fire protection discussion making correct use of the technical terminology.

Contents / teaching programme

Teaching basic knowledge of construction physics: thermal insulation, moisture protection, noise insulation, acoustics, daylight planning
Thermal insulation, using energy responsibly, overall conception of energy-saving measures, dimensioning, planning and implementing necessary noise reduction measures in buildings, knowledge transfer of current German and European applicable standards,
Energy Saving Ordinance, moisture protection, noise insulation, DIN 4109, airborne sound insulation of interior components, footfall sound insulation of ceilings and stairways, airborne sound insulation of exterior components, recommendations for specific components and design, examples of application and calculation, noise abatement in town planning, VDI standards, room acoustics, reverberation, absorption, reflection, planning of work and meeting space, fundamentals of daylight planning
Fire behaviour of building materials (characteristics, fire behaviour, classification according to DIN 4102), fire behaviour of structural components (terms, requirements, audits, classified structural components according to DIN 4102), special components, basic requirements and implementation decree from Construction Law, how to address fundamental fire protection requirements for special structures, fire fighting water supply, fire fighting equipment, fire alarm systems, smoke and heat ventilation systems, application examples for solutions in terms of fire protection.

Teaching and Supervision Methods
Lectures, tutorials

Scope/Type
Classroom teaching hours. 30/60
Self-study 45/90 hours
Term 2 semesters
Offered in each academic year
Type of examination oral exam

Total lessons taught per week during semester
2 lessons in 3rd semester
4 lessons in 4th semester

Credits
2,5 ECTS in 3rd semester
5 ECTS in 4th semester

Architecture

Bachelor of Arts (B.A.)

B-BT **1. + 2. Semester**

Material science / Technical services

Responsible Stephan Jost,
representional Professor

Lecurers. S. Jost, accademic staff

Prerequisite -

Competences / learning outcomes

At the end of the module students should:
• have gained fundamental knowledge of materials used in building construction and building engineering systems
• be able to assess and reflect critically on their practical usage
• be familiar with the procedure of how to select materials and systems and assess them
• apply the relevant planning instruments independently
• have further professionalized their analytical-structured and systematic mindset
• be able to use the knowledge and skills they have gained so far in subsequent draft and design modules

Contents / teaching programme

Sharing basic knowledge of building materials as foundations for the successful work in subsequent draft and design modules.
Materials science:
Extraction, production, useful application of materials used in building construction as well as their technical, design-related, ecological and economic properties.
Technical installations:
Installation-related basic knowledge, heat supply, controlled domestic ventilation, drinking water supply, sewage disposal, planning sanitary facilities, electrical installation, pumping systems.

Teaching and supervision methods
Lectures

Scope/Type
Classroom teaching 30 hours
Self-study 45 hours
Term 1 semester
Offered in each academic year
Type of examination written exam

Total lessons taught per week during semester
2 SWS in 1st semester
2 SWS in 2nd semester

Credits
2,5 ECTS in 1st semester
2,5 ECTS in 2nd semester

Architecture

Bachelor of Arts (B.A.)

B-DG1 **1. Semester**

Depiction / Descriptive Geometry

Responsible Prof. NN
Teachers academic staff, lecturers

Prerequisite -

Competences / learning outcomes

The compulsory module Depiction / Descriptive Geometry is aimed at promoting spatial thinking and teach students the capacity to accurately display three-dimensional objects in a two-dimensional way.

Contents / teaching program

Basic tasks comprise the most common projection methods as well as sections and penetrations of geometrical objects, also the design of shadow casts, listed projection and the determination of true size.

Teaching and supervision methods
Lectures and tutorials

Scope/Type
Classroom teaching 60 hours
Self-study 90 hours
Term 1 semester
Offered in each academic year
Type of examination project work

Total lessons taught per week during semester
4 lessons in 1st semester

Credits
5 ECTS in 1st semester

Architecture

Bachelor of Arts (B.A.)

B-DG2 **2. Semester**

Depiction / Descriptive Geometry 2

Responsible Prof. NN
Teachers. academic staff, lecturers

Prerequisite -

Competences / learning outcomes

Module B-G2 provides students with the aesthetic basics of spatial representation in free hand drawing. Students train their spatial imagination and learn / improve their skill, outlining and depicting cubic capacity and spaces by hand
When acquiring this skill – a basic requirement for designing architects- it is not only about outlining their individual ideas but also how to present them in a convincing manner und to share their views with others. In tutorials which are in sequential order, students learn the basics of perspective and image composition.

Contents / teaching program

This course teaches basic drawing and depiction techniques using various analogue media.

Tasks begin with creative basics; from there the journey continues to perspective fundamentals to accomplish the presentation of geometrical bodies using light and shadow, texture and reflections. Finally there are more complex assignments like drawing according to nature and drawing on site.
Apart from capturing the specific characteristic shape, this module is about visual composition on the sheet, choosing the right section and the main focus when displaying. Emphasis is placed on the structural view when capturing textures, locations and spaces.

Teaching and supervision methods
Tutorials, block courses and drawing excursions

Scope/Type
Classroom teaching 60 hours
Self-study 90 hours
Term 1 semester
Offered in each academic year
Type of examination project work

Total lessons taught per week during semester
4 lessons in 2nd semester

Credits
5 ECTS in 2nd semester

Architecture

Bachelor of Arts (B.A.)

B-DP1 **1. Semester**

Digital Processes 1

Responsible Prof. Marc Immel
Lecturers. Prof. Marc Immel, academic staff,

Prerequisite -

Competences / learning outcomes

Upon completion of the module students should be familiar with the fundamentals of digital draft and design work using CAAD (2D/3D) as well as the basics of 3D computer visualisation and digital image processing. They should likewise be able to assign and autonomously apply them. In addition, students will have understood cross-programme correlations in the digital process chain and know how to analytically derive and implement effective synergies in their applications. Finally, students should gain fundamental media competence and should be in a position where they can independently develop and display their own drafts and designs using digital tools

Contents / teaching program

Imparting basic knowledge in the field of digital draft and design (CAAD 2D/3D), 3D computer visualisation and digital image processing.

Digital drafting and design 1
Fundamentals of 2D and 3D drawing using CAAD Software. Introduction GUI, programme structure, 4 board projection, 2D drawing basis, 3D drawing polygon modelling, visual parametrics, non-visual parametrics (BIM), drainage (floor plan, view, section) organisation of project structure, import and export data, data backup and management, plot layout module/layout, plan printout

Computer visualisation 1
Fundamentals of 3D computer visualisation using visualisation software, introduction GUI, programme structure, image synthesis process, radiosity and raytracing procedure, render default, physical lighting, artificial lighting, colour mapping, material definition (shading), homogeneous and heterogeneous shading, camera setup/image composition, image output, interface management (import/export), data backup and project administration

Digital graphics processing 1
Fundamentals of digital image processing. Introduction GUI, programme structure, destructive and non-destructive image processing, plane management, settings levels, smart objects, screen displays, post processing of computer visualisations, interface management (import/export), data backup and project administration

Teaching and supervision methods
Lectures, seminars, block courses, tutorials

Scope/Type

Classroom teaching	60 hours
Self-study	90 hours
Term	1 semester
Offered	in each academic year
Type of examination	project assignment

Total lessons taught per week during semester
4 lessons in 1st semester

Credits
5 ECTS in 1st semester

Architecture

Bachelor of Arts (B.A.)

B-DP2 **2. Semester**

Digital processes 2

Responsible Prof. Marc Immel
Lecturers. Prof. Marc Immel, academic staff

Prerequisite -

Competences / learning outcomes

Upon completion of the module students should be able to independently produce presentations and layouts using digitals tools. In addition, students are expected to have understood fundamental correlations and methods of visual communication. Not only should students be capable of structuring and systematically compiling their presentations but also have the ability to present them in a convincing manner using suitable presentation and communication techniques.

Contents / teaching programme

Basic knowledge on how to prepare digital presentations, architectural drawings / plans and graphics used for visual communication. Teaching fundamental oral presentation and communication techniques.

Digital graph processing 2
Teaching fundamentals on how to compile pixel and vector-based layouts. Introduction GUI, programme structure, plane management, destructive and non-destructive graphics processing, typography, colour management, requirements towards output media, micro/macro layout, interactive presentations, output formats interface management (import/export), data backup and project management.

Presentation/Communication
Teaching basic presentation skills, preconditioning presentations, structuring, regulating information density, crisis management, presentation styles, presentation media, language/body language/aura. Exercises to train general communication skills and in a professional context using architectural and planning terminology.

Teaching and supervision methods
Lectures, tutorials

Scope/Type

Classroom teaching	60 hours
Self-study	90 hours
Term	1 semester
Offered	in each academic year
Type of examination	project work

Total lessons taught per week during semester
4 lessons in 2nd semester

Credits
5 ECTS in 2nd semester

Architecture

Bachelor of Arts (B.A.)

B-DP3 **4. Semester**

Digital processes 3

Responsible Prof. Marc Immel
Lecturers. Prof. Marc Immel, academic staff,
Prerequisite -

Competences / learning outcomes

Upon completion of the module, students should be familiar with basic elements of the BIM method (Building Information Modeling) and be able to independently create, review and evaluate a 3D building information model.
Likewise, they should have understood the collaborative approach inherent in the method and reflect upon it critically. Finally, students should know and be able to assess the fields of application of BIM in building and construction.

Contents / teaching programme

Teaching basic knowledge on the BIM method (Building Information Modeling) in view of the requirements towards 3D models and with respect to the digital planning and building process. This module is closely tied to IP (subject integrating project).
Building information modelling
Teaching advanced knowledge in the field of 3dimensional drafting and designing taking into consideration BIM relevant aspects. Organisation of project structure, data import and export, IFC standard, non-visual parametrics, subject model requirements, specification LOD (LOG+LOI), coordination model requirements and fields of application, data evaluation and data consistency.

Digital planning and building process
Theoretical principles of the BIM method are taught and the entire process of the digital workflow in the planning and building process is taken into consideration.

Teaching and supervision methods
Lectures, tutorials, block courses, excursions

Scope/Type
Classroom teaching 60 hours
Self-study 90 hours
Term 1 semester
Offered in each academic year
Type of examination project work

Total lessons taught per week during semester
4 lessons in 4th semester

Credits
5 ECTS in 4th semester

Architecture

Bachelor of Arts (B.A.)

B-DP4 **5. Semester**

Digital processes 4

Responsible Prof. Marc Immel
Teachers. Prof. Marc Immel, academic staff

Prerequisite -

Competences / educational achievements

Upon completion of the module students should be able to autonomously develop and control complex spatial framework by applying parametric design methodologies. Once they have completed the module they should also be familiar with different digital fabrication technologies and be able to categorize them. In addition, students should have the capacity to practise Rapid Prototyping independently. They should have gained an intensive insight into the matter to such an extent that they can display material and light characteristics in a physically accurate manner. By gaining a thorough understanding of the digital process chain students should have the capacity to solve problems when using digital tools.

Contents / teaching programme

Imparting advanced basic knowledge in the field of digital draft and design (CAAD 2D/3D), and 3D computer visualisation

Digital draft and design 2
Advanced basic knowledge in digital draft and design work. Teaching destructive and non-destructive methods, polygon modelling and nurbs modelling, visual parametrics, geometry optimisation and control, data preparation for rapid prototyping, workflow management

Computer visualisation 2
Advanced basic knowledge of 3D computer visualisation, teaching destructive and non-destructive methods, dynamic project organisation, consolidating knowledge of lighting and light design, consolidation knowledge of material composition, creation and usage of multipasses, workflow management

Rapid Prototyping
Teaching basic contents in the context of digital fabrication processes. Digital process chain, machine-assisted model assembly, Rapid Prototyping.

Teaching and supervision methods
Lectures, tutorials, block courses, field trips

Scope/Type

Clssroom teaching	60 hours
Self-study	90 hours
Term	1 semester
Offered	in each academic year
Type of examination	project assignment

Total lessons taught per week during semester
4 lessons in 5th semester

Credits
5 ECTS in 5th semester

Architecture

Bachelor of Arts (B.A.)

B-E1 **1. Semester**

Design Principles 1

Responsible Prof. Dagmar Eisermann
Teachers. Prof. Dagmar Eisermann, academic staff

Prerequisite -

Competences / Learning Outcomes

This module lays the groundwork for the design work, the key skill of any architect. By individually promoting personal interests, potentials and manual skills and artistic talent of freshmen students, the work in the fundamental studio E1 prepares students for any architect's specific actions and design work inherent in their study and subsequent career. Cultural awareness, genuineness and individual character of the design work pave the way for an open-minded portrait of life. Through a three-dimensional perception they unleash their imaginative skills and foster an aesthetic, research-oriented mindset.

Students acquire
• hands-on drafting skills as well as a formative capacity, they learn to express themselves and develop their spatial sense
• learn to express themselves using technical vocabulary.
• the capacity to communicate by means of drawings and models.
• Being able to enter a dialogue and collaborate with differently minded people,
• Self-competence: Curiosity and eagerness to experiment, forming their own opinion, ability of self-reflexion, intensity and stamina.

Contents / Teaching Programme

• Studio work
• Hands-on introduction into the methodological bases of architectural designing
• Free design with the focus on architectural space and its subdivision
• Small, process-oriented design project

Students are familiarized with key design media: sketches, drawings, structural shells and model-based spatial studies using various modeling materials and handicraft techniques, which are put to the test concurrently and mutually interacting. They are brought to life with the students' creative power and are subject of a consequential discussion.

The success is monitored alongside within one or several interim and one final presentation of the of design works.

Teaching and Supervision Methods
Supervised design work

Scope/Type	
Classroom teaching	60 hours
Self-study	90 hours
Term	1 semester
Offered	in each academic year
Type of examination	project work

Total lessons taught per week during semester
4 lessons in 1st semester

Credits
5 ECTS in 1st semester

Architecture

Bachelor of Arts (B.A.)

B-E2 **2. Semester**

Design Principles 2

Responsible Teachers. Prof. Dagmar Eisermann
Prof. Dagmar Eisermann, accademic staff

Prerequisite -

Competences and learning outcomes

This module enhances the core competency in architecture: Viewing design as an all-embracing method to bring together all architectural aspects. This includes the ability to acquire knowledge across different areas of architecture and their use in their own practical work using different ways and methods as well as the ability, to present results in a coherent way promoting an adequate presentation thereof, the acceptance of unconventional ways of thinking and new sources of inspiration and the conscious perception of everyday phenomena and living environment.
Taking all of the above into account students develop:
• Goal orientation, critical awareness of shortcomings, a humane attitude, the ability to form their own opinion,
• Ability of self-reflection and self-criticism,
• Methodological competence: the ability to transfer analytical basics to their own work, develop a work strategy, application of principles.
• Designing skills, expression and spatial imagination
• Openness to dialogue and team working skills
•

Contents / teaching programme

• Studio work
• Students are introduced to hands-on design methods embracing functional, social, aesthetic and atmospheric, programmatical and tectonic aspects in the field of architecture
• In process-oriented free design work students critically reflect upon alternative solutions for zoning, circulation, space sequences, structure, building envelope and material when viewing the overall effect and the possible interpretation in a step-by-step approach.

The success is monitored alongside within one or several interim and one final presentation of the works.

Teaching and supervision methods
Supervised design work

Scope/Type
Classroom work 60 hours
Self-study 90 hours
Term 1 semester
Offered in each academic year
Type of examination: project work

Total lessons taught per week during semester
4 lessons in 2nd semester

Credits
4 ECTS in 2nd semester

Architecture

Bachelor of Arts (B.A.)

B-EP1 **3. Semester**

Architectural design project 1

Responsible Prof. Georg A. Poensgen

Studios Full Professors, academic staff, lecturers
Prerequisite -

Competences / Learning Outcomes

• Simple and non-complex design tasks from a contextual, functional, technical and artistic viewpoint, and structure them with respect to time and content
• be able to do specific research, accurately phrase the challenge faced, conduct an analysis, build the capacity for critical judgement and be able to develop different conceptual approaches
• substantiate and formulate their first theoretical and methodological knowledge and at the same time being able to communicate their abilities in construction and design using different presentation media.

Contents / Teaching Programme

Based on an analysis of the planning task which has been developed in an ongoing dialogue between students and teachers, students are supposed to apply the knowledge they have gained in the first two semesters when now designing a complete building. The goal is to develop an ecological and energy-oriented as well as an exceptionally well-designed overall solution.

Analysis of an urban planning situation
Integration of a building into its surroundings respectively in its building structures in an urban environment
Realisation of a building programme in a building concept
Correlation of space, shape and proportions
Review of the artistic intention
Analysis and assessment of constructive and climate-related operations

Teaching and Supervision Methods
Lectures, workshop tutorials, field trips

Scope/Type
Classroom teaching 60 hours
Self-study 90 hours
Term 1 semester
Offered in each academic year
Type of examination project assignment

Total lessons taught per week during semester
4 lessons in 3rd semester

Credits
5 ECTS in 3rd semester

Architecture

Bachelor of Arts (B.A.)

B-EP2 **4. Semester**

Architectural Design project 2

Responsible Stephan Jost, representional Professor
Studios Full Professors, lecturers

Prerequisite -

Competences / Learning Outcomes

Upon completion of the module students should be able – based on the analysis of a planning task and following the ongoing dialogue between teachers and students – to apply the knowledge gained in the compulsory modules of the first 3 semesters to master a more complex design task where they can incorporate their knowledge in an ecologically-energy-oriented balanced high-grade final solution.

Contents / Teaching Programme

Contents include
• Analysis of the urban environment
• Integration of the building resp. building structures in the urban environment
• Functional analysis of a space allocation plan
• Translation of the functional analysis into a formal concept
• Construction dimension
• Interrelationship outdoor and indoor spaces
• Analysis and assessment of climate-related non-ecological conditions
• Analysis and assessment of various design principles
• Matching shape and content
• Adherence to laws governing structural systems

Particular consideration shall be given to the notion „accessibility for everyone“, a design philosophy which embraces the idea of unobstructed access for people of all age groups and abilities.

Teaching and Supervision Methods
Lectures, workshop tutorials, field trips

Scope/Type
Classroom teaching 60 hours
Self-study 90 hours
Term 1 semester
Offered in each academic year
Type of examination project work

Total lessons taught per week during semester
4 lessons in 4th semester

Credits
5 ECTS in 4th semester

Architektur

Bachelor of Arts (B.A.)

B-EP3 **5. Semester**

Architectural design project 3

Responsible Prof. Dagmar Eisermann

Studios Full Professors, academic staff, lecturers
Prerequisite –

German - English

Competences / Learning Outcomes

After critical consideration, students are able to translate a concept into an appropriate architectural solution and in doing so express themselves using adequate display methods. In their draft students express their individual stance towards the given problem definition.

Students will acquire the skills needed to develop solutions for their architectural design including landscaping, seen in the town planning interrelationship. They can demonstrate how the building itself as well as interior and exterior spaces communicate in a coherent way through the facade as an intermediary between private, semiprivate and public zones at the interface to the urban resp. natural environment.
They can respond to any relevant issues of the day with responsibility towards a sustainable development. In addition, they have the capacity to communicate complex contents to their audience with a well-founded theoretical background.

Contents / Teaching Programme

At the beginning of the semester students select one of the design topics from the published briefs for an architectural design project which outlines the planning perimeter for buildings and surroundings.
Based on the knowledge acquired in the previous study semesters and on their skills, a basic evaluation will be put prior to the draft work e.g. analyses, off-the-cuff draft, presentation or similar, to examine the given architectural and spatial environmental context with a view to history, culture and society. Based on this knowledge and in critical reflection and independent research, groundbreaking concepts will be elaborated to face the design challenge and to support the subsequent design process.

EP3 has two in-depth focus areas: the planning of the outdoor areas as an integral part of the design and the intercultural dialogue (German-English) in the Erasmus programme (usually in semester 5).

The consistency of the concept is debated as part of a process in the supervision phases with respect to theoretical, functional and design-related aspects.

Teaching and Supervision Methods
Supervision of the design work, previous sessions to assess the basics, which are dependent on the individual design topic.

Scope/Type
Classroom teaching 90 hours
Self-study 135 hours
Term 1 semester
Offered in each academic year
Type of examination project work

Total lessons taught per week during semester
6 lessons in 5th semester

Credits
7,5 ECTS in 5th semester

Architecture

Bachelor of Arts (B.A.)

B-GL **3. Semester**

Typology of Architecture

Responsible Prof. Georg A. Poensgen
Lecturers Prof. G. A. Poensgen, academic staff,

Prerequisite -

Competences / Learning Outcomes

• Be familiar with and be able to allocate building types with their organisational form and principles of order as well as their various functional groups seen in light of historical, societal, intellectually historical as well as spatial notions.
• Be able to autonomously judge architectural transformations to achieve structural alterations in and with respect to specific locations in the context
• Having systematically professionalized their analytical thinking and critical mindset towards architectural structures resp. the ability to conclude by analogy, in order to establish a fundamental inseparable correlation to the field design work seen over the entire course of study up to the last semester

Contents / Teaching Programme

Lectures in Building Typology teach the fundamentals of building types – going from the historical evolution to today's architectural trends, also taking into account the societal context.

Targets: Providing the skill base in typology of Architecutre, which is relevant for design work

Themes
• public building types, with its structures for education, health, public administration and culture
• typology of office and industry buildings
• housing development with its various types of buildings and spatial requirements towards private and public space
• location itself, meaning the genius loci,

Providing a theoretical knowledge base for the critical appraisal of structures.
At the same time they lay the foundation for subsequent architectural-structural, formal-aesthetic, functional and spatial approaches in design work.

Teaching and Supervision Methods
Lectures, workshop tutorials, field trips

Scope/Type
Classroom teaching 60 hours
Self-study 90 hours
Term 1 Semester
Offered in each academic year
Type of examination oral exam

Total lessons taught per week during semester
4 lessons 3rd semester

Credits
5 ECTS in 3rd semester

Architecture

Bachelor of Arts (B.A.)

B-IP **5. Semester**

Integrating Technology

Responsible Prof. Jo Ruoff

Teachers Professors, academic staff, lecturers
Prerequisite -

Learning outcomes / competences

Students should learn how to consolidate skills gathered in previous modules in a construction documentation. In addition to the set of rules inherent in the construction documentation they should especially practise the coordination of interfaces. In this context they should be able to recognize, classify and creatively tackle challenges to find solutions for various and partly contradictory requirements. At the same time they repeatedly practise to pursue their original conceptual idea in the construction planning and to understand the importance of detailed planning to make the design idea a success.

Contents / teaching programme

Pooling knowledge acquired in building design, support structure and building technology in a construction documentation.
Following introductory lectures on the set of rules governing technical drawing and with a view to particularly relevant design topics construction documentation is elaborated from drafts that the students themselves have created in prior semesters. Special attention is given to the integration of the different - partly contradictory - requirements from the disciplines involving support structure and building technology. This inlcudes the digital cooperation on a BIM building model.

Teaching and supervision methods

Introductory lectures, supervised design task, oral presentations

Scope/Type
Classroom teaching 60 hours
Self-study 90 hours
Term 1 Semester
Offered in each academic year
Type of examination project work

Total lessons taught per week during semester
4 lessons in 5th semester

Credits
5 ECTS in 5th semester

Architecture

Bachelor of Arts (B.A.)

B-R **5. Semester**

Law

Responsible Prof. Henrike Specht

Teachers Professors, academic staff, lecturers
Prerequisite -

Competences / learning outcomes

Students are taught about the regulations governing building in existing fabric and in development areas. Students should be familiar with these rules, they should understand and know how to apply them in the context.

Contents / teaching programme

The range of courses consists of lectures and contents which are divided in the area Planning Law and Federal State Building Order (state building regulations).
The lecture in Planning Law focuses primarily on the contents of the land-use plan like type and degree of building and land use and the provisions governing design as well as admissibility of projects.
The lectures on the Federal State Building Order covers mainly the varying storeys of building classifications, the construction requirements towards the plot of land, building and development, parking spaces and garages, distance spaces, fire protection as well as rules of procedure. At the end of the module students have to pass a written exam.

Teaching and supervision methods
Lectures

Scope/Type

Classroom teaching 60 hours
Self-study 90 hours
Term 1 Semester
Offered in each academic year
Type of examination written exam

Total lessons taught per week during semester

4 lessons in 5th semester

Credits

5 ECTS in 5th semester

Architecture

Bachelor of Arts (B.A.)

B-S **3. Semester**

Urban Design

Responsible Prof. Henrike Specht

Teachers Prof. Henrike Specht, academic staff, lecturers

Prerequisite -

Learning outcomes / competences

The module teaches fundamentals about the structure of a city, urban design and how a city functions. In addition, skills and capabilities on the methodical and display-oriented understanding of urban interrelationships are taught and practised – which serves as a basis for the urban development design.
The goal is to gain an insight into the societal conditionality of a built environment, in the characteristic of the specific location as well as into the basic principles of grown European cities. This forms the foundation for any construction task in the architectural and urban planning scale.

Contents / teaching programme

• Lecture which teaches essential theoretical knowledge
• Accompanying tutorials improve the application of findings in smaller assignments.

Teaching and supervision methods
Lectures, corrections

Scope/Angebot
Classroom teaching 60 hours
Self-study 90 hours
Term 1 Semester
Offered in each academic year
Type of examination project assignment

Total lessons taught per week during semester
4 lessons in 3rd semester

Credits
5 ECTS in 3rd semester

Architecture

Bachelor of Arts (B.A.)

B--SLR **5. Semester**

Strategies for rural areas

Responsible Prof. Peter Thomé

Teachers Prof. Peter Thomé, Professsors in other fields
Academic staff, lecturers

Learning outcomes / competences

Students know the criteria to describe and interpret rural areas from various disciplines. As part of a team they know how to elaborate and apply analytical methods to analyse rural settlement and social environment structures. They can challenge their own disciplinary perception and develop a basic unterstanding for aspects inherent in different disciplines.

Contents / teaching programme

Students learn the fundamentals of how to deal with rural areas from viewpoints involving building culture, settlement structures, social science and infrastructure.

Students are made familiar with different approaches and definitions in the interdisciplinary view of rural areas. They learn about the impact of demographic developments on the social environment. They obtain a general overview of location structures, open spaces and building types in rural settlements and their infrastructural characteristics.

Students analyse locations in rural areas taking into account various disciplines and describing the present structures. They identify development opportunities for growth and shrinking processes, consider them carefully and draw their conclusions accordingly. They substantiate their decisions and develop fields of action for the individual location.

Teaching and supervision methods
Lectures, seminars, tutorials

Scope/Type
Classroom teaching 60 hours
Self-study 90 hours
Term 1 semester
Offered in each academic year
Type of examination paper, project work

Total lessons taught per week during semester
4 lessons in 5th semester

Credits
5 ECTS in the 5th semester

Architecture

Bachelor of Arts (B.A.)

B-SP1 **4. Semester**

Urban Design Project 1

Responsible Prof. Henrike Specht
Teachers Prof. Henrike Specht, academic staff, lecturers
Prerequisite -

Learning outcomes / competences

Urban design fundamentals essential for planning in existing structures and urban expansion zones are taught in this module. Students practise how to handle urban scale as well as how to deal with the interface between urban development and architecture.
Students are enabled to compose urban layouts for the specific location in light of building culture and to develop innovative adequate urban spaces and building types.

Contents / teaching program

Module B-SP1 is based on the knowledge established in module B-S.
Urban design practice with the following components:
• Teaching fundamentals and seminar preparation to get started
• Design work (Analysis, SWOT, draft)
• Final presentation

Teaching and Supervision Methods
Seminar, corrections

Scope/Type
Classroom teaching 60 hours
Self-study 90 hours
Term 1 semester
Offered in each academic year
Type of examination Project work

Total lessons taught per week during semester
4 lessons in 4th semester

Credits
4 ECTS in the 4th semester

Architecture

Bachelor of Arts (B.A.)

B-SP2 **5. Semester**

Urban Design Project 2

Responsible Prof. Henrike Specht
Teachers Prof. Henrike Specht, academic staff, lecturers
Prerequisite -

Learning outcomes / competences

In Modul B-SP2 the design capability is enhanced. The module teaches advanced design fundamentals for complex planning in existing structures as well as in urban expansion areas. The realisation of an urban design concept will be exercised in a complex urban context. The awareness of how to handle the urban scale and the interface between urban development and architecture are given particular emphasis.
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Students are enabled to compose urban layouts for the specific location in light of building culture and to develop innovative and suitable urban spaces and building types

Providing students with the competence to work out a sustainable, open space planning main emphasis within the framework of the design task paying special attention to the interface between open space planning, architecture and urban development.

Contents / teaching program

Urban design class consisting of the following components:
• Teaching basic principles and seminar-oriented preparation to introduce the elaboration
• Design work (Analysis, SWOT, draft, urban development detail)
• Final presentation
In this design project the topic „A city for everyone“ is given serious thought
Major subject
• In-depth design in the context of open space planning is an integral element of both the basic evaluation as well as the design itself.

Teaching and supervision methods
Seminar, corrections

Scope/Type
Classroom teaching 90 hours
Self-study 135 hours
Term 1 semester
Offered in each academic year
Type of examination project assignment

Total lessons taught per week during semester
5 lessons 5th semester

Credits
7,5 ECTS in 5th semester

Architecture

Bachelor of Arts (B.A.)

B-TH1 **1. Semester**

Urban and Architectural History

Responsible Prof. NN
Teachers Prof. Specht
Prerequisite -

Learning outcomes / competences

Goal of the lecture in urban history is for students to gain an insight into historical and current problem areas in urban development and learn to understand the significance of the urban development context when finding a solution for a construction task.

Contents / teaching program

This module consists of one lecture in urban history and one lecture in architectural history. The lecture in urban history addresses guiding principles in urban development and the evolution in urban development, how the European city came about and current tasks. In the lecture architectural history, the focus lies on the architecture between 1800 and 1945. In addition to significant places and structures the main trends and players of modern architecture are introduced.

Teaching and supervision methods
Lectures

Scope/Type
Classroom teaching 60 hours
Self-study 90 hours
Term 1 semester
Offered in each academic year
Type of examination written exam, paper

Total lessons taught per week during semester
4 lessons in 1st semester

Credits
5 ECTS in 1st semester

Architecture

Bachelor of Arts (B.A.)

B-TH2 **2. Semester**

Architectural History and Theory

Responsible Prof. NN
Teachers Prof. NN

Prerequisite -

Learning outcomes / competences

For the goal of the course see B-TH 1.- In this seminar students are challenged, to autonomously elaborate and present subject content. This way they learn about key work methods like literature research, how to properly and critically work with text and image sources and how to give an oral presentation. Students shall gain the skills to give a structured talk about a topic in the field of architectural history and consequently be able to adopt their own position with respect to the given / selected topic.

Contents / teaching program

The content of lecture and seminar is based on the lecture architectural history in the first semester.
Lecture and seminar put the focus on the architecture from 1945 until now. In addition to significant places and buildings this module is about the main directions and those playing a major role in the architecture during those decades. Contents of both lecture and seminar complement one another.

Teaching and supervision methods

Lectures, seminars, tutorials

Scope/Type

Classroom teaching 60 hours
Self-study 90 hours
Term 1 semester
Offered in each academic year
Type of examination written exam, paper

Total lessons taught per week during semester

4 lessons in 2nd semester

Credits

5 ECTS in 2nd semester

Architecture

Bachelor of Arts (B.A.)

B-THS1 **6. Semester**

Thesis Seminar

Responsible Prof. Jo Ruoff
Supervisors Professors, lecturers and externals pursuant to exam regulations
Prerequisite 150 ETCS

Learning outcomes / competences

The thesis seminar which is scheduled prior to working on the bachelor thesis serves on the one hand as a training to practise the application of techniques they have learnt so far to analyse specific circumstances and requirements going along with the thesis. On the other hand this module is meant to make sure that students can enter the design work with confidence revising the formulations of design and design methods they have gained so far and address them in a training course discussion.

Contents / teaching program

Consolidating the knowledge gained and enhancing skills to solve a complex planning task
This course is intended to give support and guidance with bachelor theses. Fundamental solution methods are discussed in groups and guidance is provided on how to organise the work in view of content, urban development, functional and design-oriented aspects. Questions about the presentation are addressed.

Teaching and supervision methods
Seminars, short excursions, workshops

Scope/Type

Classroom teaching 30 hours
Self-study 60 hours
Term 1 semester
Offered every semester
Type of examination Attend seminar

Total lessons taught per week during semester

2 lessons in 6th semester

Credits

3 ECTS in the 6th semester

Architecture

Bachelor of Arts (B.A.)

B-THS2 **6. Semester**

Bachelor-Thesis

Responsible Prof. Jo Ruoff
Supervisors Professors, lecturers and externals pursuant to exam regulations
Prerequisite 150 ETCS

Learning outcomes / competences

With this final paper students should learn to develop an autonomous solution as part of a synthesis of findings gained so far in their studies. They should practise the analysis of a complex design task, draw up concepts and put them into practice accordingly within the specified time frame. In doing so students are required – in contrast to proposals drafted up so far – to mostly perform autonomously to learn to manage their own performance and finally make a convincing case of decisions taken.

Contents / teaching program

With this thesis students are required to prove that they are able to apply the skills gained in their study which are necessary to analyse a complex architectural assignment, draw up a concept and implement it within a specified time frame in a coherent way.
In every semester there will be at least one professor, who sets the relevant task. Alternatively each student will be given the opportunity, to propose a topic that has been chosen by themselves. The Bachelor thesis can also be completed as a joint group work. Please see the exam regulations for further details. The Bachelor thesis can be written in German or in English. For exceptions see the exam regulations.

Teaching and supervision methods
Autonomous workstyle, consultation

Scope/Type

Classroom teaching –
Self-study: 360 hours
Term: 1 semester
Offered: every semester
Type of examination Thesis presentation and colloquium

Total lessons taught per week during semester
-

Credits

12 ECTS in 6th semester

Architecture

Bachelor of Arts (B.A.)

B-TK1 **1. Semester**

Structures 1

Responsible Prof. NN
Teachers Prof. NN

Prerequisites -

Learning outcomes / competences

The physical and mechanical basic knowledge on how to handle load-bearing elements is taught in module B-TK1. The goal is to recognize physical, mechanical and material-specific correlations which also form the basis for module B-TK2.

Contents / teaching program

Contents of the lectures include the subject fields load-bearing, cross sections, component stress and deformation.

Great emphasis is laid on identifying and abstracting assumptions, models and static systems through promoting and practising conclusions by analogy made from everyday observations on the topics structural stability, load-bearing behaviour, deformations and so on.

Teaching and supervision methods
Lectures and tutorials

Scope/Type

Classroom teaching 45 hours
Self-study 30 hours
Term 1 semester
Offered in every academic year
Type of examination written exam

Total lessons taught per week during semester

3 lessons in 1st semester

Credits

2,5 ECTS in the 1st semester

Architecture

Bachelor of Arts (B.A.)

B-TK2 **2. + 3. Semester**

Structures 2

Responsible Prof. NN
Teachers. Prof. NN

Prerequisite -

Competences / learning outcomes

Module B-TK2 is based on the physical and mechanical fundamental knowledge laid down in module B-TK1. The goal for students is to be able to meaningfully project physical and mechanical correlations acquired in previous semesters onto support structures that occur in building construction and inherent issues.
Furthermore, all students should be empowered, to gain competence when using support structures made of steel, wood and reinforced concrete. The module is geared towards being able to recognize parameters that influence the shape of support structures and a competent use of the latter in practice, be it as a planner, project supervisor or in any other planning, controlling or monitoring function. Students should get to know the mindset and language regime of structural engineers as well as the normative foundations of structural engineering and the fundamental principles, to ensure a constructive discussion with the engineering partner to-be in initial planning and work stages as well as making decisions autonomously in the construction management phase.

Contents / teaching program

Lecture contents relate to design fundamentals of support structures and issues associated with load-bearing elements that regularly occur in building construction like roofing and ceiling systems, reinforcements, stabilisation problems, foundations and so on.
We attach great importance to the recognition and abstraction of assumptions, models and static systems by enhancing and exercising conclusions by analogy taken from everyday observations on the relevant topics.
Another issue that should be raised here are support structures made of steel, wood and reinforced concrete. Parameters influencing the shape and dimensioning of support structures are included as well as material-specific constructive details. The normative rules, which the engineering partners need to consider in their work, will be introduced and explained.
Using simple examples the mindset, working methods and language of engineering partners to-be will be taught as well as the parameters impacting the shape of support structures.
Difficulties that are specific to support structures will be addressed, which will be essential for future construction supervisors.

Teaching and supervision methods
Lectures and tutorials

Scope/Type

Classroom teaching 45 hours
Self-study 30 hours
Term 2 semesters
Offered in every academic year
Type of examination written exam

Total lessons taught per week during semester
3 lessons in 2nd semester
3 lessons in 3rd semester

Credits

2.5 ECTS in the 2nd semester
2.5 ECTS in the 3rd semester

B-WM 5. + 6. Semester

Architecture Bachelor of Arts (B.A.)

Elective / Field Trips

Responsible Prof. Peter Thomé

Teachers all Professors, lecturers and externals pursuant to exam regulations

Prerequisite -

Learning outcomes / competences

In addition to their compulsory modules in the curriculum, students are faced with other topics that are part of an architect's tasks. Depending on their personal preference, they put emphasis on certain major subjects and decide themselves on how deep like would like to submerge into the subject

Contents / teaching program

Electives increase awareness and create sensitivity for current issues while they enhance an autonomous workstyle when exploring new subject areas and allow students to find their major subjects in line with their own individual interests.
Subject areas showing a certain topicality are offered more in-depth across the entire range of topics in the field of architecture and urban planning. Examples may include the following modules:

• Architectural theory
• Special area building construction
• Digital processes
• Energy-efficient planning and building
• International knowledge exchange and work processes
• Sustainability and ecology
• Project management
• Urban and open spaces
• Strategies in rural areas
• Special area support structure
• Architectural photography
• Field trips
• Impromptu

Teaching and supervision methods
Lectures, seminars, workshops, field trips

Scope/Type

Classroom teaching 30 / 60 hours
Self-study 45 / 90 hours.
Term 1 semester
Offered every semester

Total lessons taught per week during semester

2 / 4 lessons

Credits

2,5 ECTS / 5 ECTS