

Master of Arts in Architecture  
**Module Manual**

Study Programme starting in  
WS 2018/2019

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## Module Description: Project 1M - 3M

1<sup>st</sup> to 3<sup>rd</sup> Semester

Module Code: PRO 1M, PRO 2M, PRO 3M		ECTS Credits: 18 per semester	
Teaching and learning methods:		Attendance time:	120 full hours
Lecture:	- SWS [semester periods per week]	Preparation and follow-up:	50 full hours
Exercise / internship / seminar:	8 SWS	Term papers / presentations, etc.:	370 full hours
		Total workload:	approx. 540 full hours
Module Coordinator: Prof. Dipl.-Ing. Frank Hausmann / Prof. Dipl.-Ing. Isabel Maria Finkenberger / Prof. Dipl.-Ing. Markus Hermann		Prerequisite for participation: -	

### Desired learning results:

#### Specialist competences

##### Project

Comprehensive solution of an architectural task of high complexity in the necessary scales and representations. Recognising, assessing and prioritising the decisive factors of an architectural process and their integration in the overall task. Mastering methods for designing architectural concepts of high complexity and thus consolidating the individual design expertise. Demonstrating own architectural approach to realistic problems.

##### Project Plus

Recognising the correlation between design objectives and additional in-depth specialist requirements. Integration of these requirements in the architectural design.

#### Interdisciplinary competences

##### Methodical competence

Presentation techniques, practical application, ability to reflect, complex problem-solving, self-directed learning, learning and thinking strategies, project management, media competence, information literacy, research skills

##### Social skills

Teamwork, group development, communication techniques, linguistic skills

##### Personal skills

Stress management, motivation to learn, examination preparation, ability to engage in self-criticism

#### Learning content

##### Project:

Realistic design topics of high complexity are provided by subject areas of the faculty. Depending on the task, they vary in place, use and specific design objectives, aesthetic, social, technical, economic and ecological requirements. Based on the development of design basics and the parameters relevant to the respective task, the design is successively and largely independently developed and reflected in a cycle of doing, comparing, assessing and changing. Alternative design approaches are explained, critically discussed, compared and assessed. The selected design approach is elaborated and presented in the targets, requirements, scales, representations and performances described in the assignment.

##### Project Plus:

Integrated planning by integrating specialist knowledge and skills beyond the design task of the project. The assignment is connected with the project. It supplements the project assignment by additional aspects and/or expands on it in a select sub-field.

#### Type of examination

Presentation Colloquium

#### Literature and learning materials:

Project-related reference library

## Module Description: Load-Bearing Structure

1<sup>st</sup> Semester

Module Code: TW		ECTS Credits: 4	
Teaching and learning methods:		Attendance time:	60 full hours
Lecture:	2 SWS	Preparation and follow-up:	30 full hours
Exercise / internship / seminar:	2 SWS	Term papers / presentations, etc.:	30 full hours
		Total workload:	approx. 120 full hours
Module Coordinator: Prof. Dr.-Ing. Evelin Rottke		Prerequisite for participation: -	

### Desired learning results:

#### Specialist competences

Load-bearing structure design in the overall context:

- ability to create variants and assess own load-bearing structure designs in the course of a specific design task
- recognising, distinguishing and interpreting the manifold and complex connections between design, load-bearing structure and construction
- use of digital tools and load-bearing structure models for supporting the load-bearing structure design
- ability to critically assess and challenge load-bearing structure planning concepts
- ability to explore a topic from the field of load-bearing structure and construction independently and scientifically

Space and its structural and design elements is addressed by means of analyses of complex architectural designs the students prepare on their own.

#### Interdisciplinary competences

##### Methodical competence

Presentation techniques, practical application, ability to reflect, complex problem-solving, self-directed learning, learning and thinking strategies, project management, media competence, information literacy, research skills

##### Social skills

Teamwork, group development, role flexibility, communication techniques, linguistic skills

##### Personal skills

Motivation to learn, examination preparation, ability to engage in self-criticism

#### Learning content

Based on what the students learned about load-bearing structures in the Bachelor's programme, the most important load-bearing structure planning considerations that determine the design are summarised. An overview of the variety of supporting structures and their variations is provided so that the students have a basis for the load-bearing structure design in alternatives. Adequate digital tools that support the design of load-bearing structures are introduced and used. The course discusses a topic in more detail and focuses on load-bearing structure and construction. The main topic is redefined in each new semester.

#### Type of examination

Presentation Colloquium

#### Literature and learning materials:

Tragsysteme – Structure Systems, Engel, 4. überarb. Aufl., 2009

The Strength of Architecture, Mario Salvadori: Why Buildings Stand Up, 1980 Tragwerk und Architektur, Mario Salvadori, Robert Heller - Vieweg, 1983

## Module Description: Architectural Theory

1<sup>st</sup> Semester

Module Code: AT		ECTS Credits: 4	
Teaching and learning methods:		Attendance time:	60 full hours
Lecture:	2 SWS	Preparation and follow-up:	30 full hours
Exercise / internship / seminar:	2 SWS	Term papers / presentations, etc.:	30 full hours
		Total workload:	approx. 120 full hours
Module Coordinator: Prof. Dr.-Ing. Anke Fissabre		Prerequisite for participation: -	

### Desired learning results:

#### Specialist competences

In the module, Master's students consider in greater detail a topic in the field of architectural theory or history. The focus is less on learning specialist knowledge and more on learning a scientific method for processing a specific task. The following skills are taught in the course in detail:

- ability to explore and discuss a topic from architectural theory independently and scientifically
- ability to critically assess and challenge architectural concepts and projects
- ability to confidently use different presentation techniques to present your own work

#### Interdisciplinary competences

##### Methodical competence

Presentation techniques, scientific writing, practical application, ability to reflect, complex problem-solving, self-directed learning, learning and thinking strategies, project management, media competence, information literacy, research skills

##### Social skills

Teamwork, group development, communication techniques, linguistic skills, conflict management

##### Personal skills

-  
Stress management, motivation to learn, examination preparation, ability to engage in self-criticism

#### Learning content

The course expands on a topic from the field of architectural history or theory to be redefined in each new semester. Where possible, the topic of the current semester project is taken into account. For example, an individual building type is discussed (library, museum, theatre, etc.), a current issue from the architectural debate/critique/research is discussed or a specific building is examined in detail.

#### Type of examination

Project submission

#### Literature and learning materials:

Project-related reference library and project-related e-Learning

## Module Description: Urban | Rural

1<sup>st</sup> Semester

Module Code: SL		ECTS Credits: 4	
Teaching and learning methods:		Attendance time: 60 full hours	
Lecture:	2 SWS	Preparation and follow-up:	30 full hours
Exercise / internship / seminar:	2 SWS	Term papers / presentations, etc.:	30 full hours
		Total workload:	approx. 120 full hours
Module Coordinators: Prof. Dipl.-Ing. Isabel Maria Finkenberger		Prerequisite for participation: -	

### Desired learning results:

#### Specialist competences

The students independently work out how urban (free space) systems, quarters and free spaces emerge under practical conditions. They learn to understand and analyse the existing urban structures as a result of complex interactions and development processes in the past and present. They interpret historic and current organisation and design principles of urban development on various scale levels against the backdrop of societal, technological and climate change and with regard to the history of ideals, guiding principles and paradigms of spatial planning in the field of urban development. In doing so, they gain insight into the variety of tasks of architects, urban planners and landscape designers, which include creative-artistic, planning and process-oriented, but also scientific-technical and social, participatory, economic and ecological aspects.

#### Interdisciplinary competences

##### Methodical competence

Presentation techniques, scientific writing, application in practice, ability to reflect, self-directed learning, learning and thinking strategies, information literacy, research skills

##### Social skills

Teamwork, communication techniques, linguistic skills

##### Personal skills

Motivation to learn, examination preparation

#### Learning content

Alternating current topics and issues from essential fields of urban and landscape planning are addressed and discussed in a suitable form (lectures, seminar, field trip). Historical processes of transformation, growth or decline of urban systems are related to current problems and future trends in urban development. Urban development-architectural topics as well as social, ecological, economic and procedural aspects are discussed in depth.

#### Type of examination

Project submission

#### Literature and learning materials:

Das Bild der Stadt / The image of the city

Kevin Lynch; Birkhäuser, 2001 (Bauwelt-Fundamente; 16: Stadtgestaltung, Stadterlebnis)

Collage City; Colin Rowe; Fred Koetter; Birkhäuser, 1997 (Geschichte und Theorie der Architektur; 27) Zwischenstadt: zwischen Ort und Welt, Raum und Zeit, Stadt und Land

Thomas Sieverts, Vieweg, 1998 (Bauwelt-Fundamente; 118: Stadtplanung, Urbanistik)

Lernen von Las Vegas / Learning from Las Vegas, zur Ikonographie und Architektursymbolik der Geschäftsstadt; Robert Venturi;

Denise Scott Brown; Steven Izenour. Birkhäuser, 2001 (Bauwelt-Fundamente; 53)

Delirious New York: ein retroaktives Manifest für Manhattan; Rem Koolhaas. Deutsch von Fritz Schneider | Aachen: Arch+ Verl., 1999

Die europäische Stadt, Walter Siebel (Hrsg.); Suhrkamp, 2004

Metropolen (Laboratorien der Moderne), Dirk Matejovski (Hrsg.); Campus-Verl., 2000 (Schriftenreihe des Wissenschaftszentrums Nordrhein-Westfalen ;5)

Die Welt wird Stadt: Stadtbilder aus Asien, Afrika, Lateinamerika, Eckhart Ribbeck; Jovis, 2005 Die europäische Stadt - Mythos und Wirklichkeit, Dieter Hassenpflug (Hrsg.); LIT, 2000

Urbanität und Identität zeitgenössischer europäischer Städte, Lampugnani, Vittorio Magnago (Hg.), Ludwigsburg, 2005

Tod und Leben großer amerikanischer Städte, Jane Jacobs – Birkhäuser, 2000

The Rise of the Creative Class. Revisited, Richard Florida – Basic Books, 2014

A Pattern Language: Towns, Buildings, Construction, Christopher Alexander, Sara Ishikawa, Murray Silverstein – Oxford University Press, 1977

Die Stadt in der Stadt. Berlin: Ein grünes Archipel, Florian Hertweck, Sébastien Marot (Hrsg.), Oswald Mathias Ungers, Rem Koolhaas, Peter Riemann, Hans Kollhoff, Arthur Ovaska – Lars Müller Publishers, 2013  
Die Unwirtlichkeit unserer Städte. Anstiftung zum Unfrieden, Alexander Mitscherlich – Suhrkamp, 1999  
Nicht-Orte, Marc Augé – C.H. Beck, 2014  
Ecological Urbanism, Mohsen Mostafavi, Gareth Doherty, Harvard University Graduate School of Design – Lars Müller, 2016  
Die Architektur der Stadt: Skizzen zu einer grundlegenden Theorie des Urbanen, Aldo Rossi – Birkhäuser, 1973  
Der Umzug der Menschheit: Die transformative Kraft der Städte. Hauptgutachten 2016, Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen WBGU – 2016

## Module Description: Sustainable Planning and Building

2<sup>nd</sup> Semester

Module Code: RPB		ECTS Credits: 4	
Teaching and learning methods:		Attendance time: 60 full hours	
Lecture:	2 SWS	Preparation and follow-up:	30 full hours
Exercise / internship / seminar:	2 SWS	Term papers / presentations, etc.:	30 full hours
		Total workload:	approx. 120 full hours
Module Coordinator: Prof. Dipl.-Ing. Markus Hermann		Prerequisite for participation: -	

### Desired learning results:

#### Specialist competences

The interaction between architectural design and building technology aspects of sustainable construction is recognised. Knowledge of integral planning of buildings that meet the challenges of climate change and shortage of resources is acquired. Sustainable concepts can be vividly presented.

#### Interdisciplinary competences

##### Methodical competence

Presentation techniques, practical application, ability to reflect, complex problem-solving, project management, media competence, information literacy, research skills

##### Social skills

Teamwork, group development, communication techniques, conflict management

##### Personal skills

Motivation to learn, examination preparation, ability to engage in self-criticism

#### Learning content

Building technology topics regarding resources, energy efficiency and renewable energy production are discussed within the context of a specific planning task. Based on an analysis, sustainable building technology is integrated into the architectural design by using simulation and planning tools in mutual consideration of technical and design requirements and vividly presented. In addition, energy balances and concepts in connection with the architectural design are developed and graphically illustrated.

#### Type of examination

Presentation Colloquium

#### Literature and learning materials:

Project-related reference library and project-related e-Learning



## Module Description: Methodological Design 1

2<sup>nd</sup> Semester

Module Code: MET1		ECTS Credits: 4	
Teaching and learning methods:		Attendance time: 60 full hours	
Lecture:	2 SWS	Preparation and follow-up:	30 full hours
Exercise / internship / seminar:	2 SWS	Term papers / presentations, etc.:	30 full hours
		Total workload:	approx. 120 full hours
Module Coordinator: Prof. Dipl.-Ing. Thomas Tünnemann		Prerequisite for participation: -	

### Desired learning results:

#### Specialist competences

Ability to analyse and explain third-party and own projects of design, draft and form finding and apply them to own projects. Creating and generating presentations in printed and digital form.

#### Interdisciplinary competences

##### Methodical competence

Presentation techniques, scientific writing, ability to reflect, self-directed learning, learning and thinking strategies, project management, media competence, information literacy, research skills

##### Social skills

Teamwork, role flexibility, communication techniques, linguistic skills

##### Personal skills

Motivation to learn, examination preparation, ability to engage in self-criticism

### Learning content

Creative concepts in design and form finding processes are developed and examined. Research, drawing and plastic exercises are directly included in the final design tasks from the field of architecture and art. In addition, methods for the graphic processing in the form of flyers, readers and catalogues are taught.

### Type of examination

Project submission

### Literature and learning materials:

Project-related reference library

## Module Description: Building Theory

2<sup>nd</sup> Semester

Module Code: GL		ECTS Credits: 4	
Teaching and learning methods:		Attendance time: 60 full hours	
Lecture:	2 SWS	Preparation and follow-up:	30 full hours
Exercise / internship / seminar:	2 SWS	Term papers / presentations, etc.:	30 full hours
		Total workload:	approx. 120 full hours
Module Coordinator: Prof. Dipl.-Ing. Frank Hausmann		Prerequisite for participation: -	

### Desired learning results:

#### Specialist competences

Recognising, naming and analysing essential features of known typologies in terms of content and structure. Recognising the dependencies by comparative examination and comparison of the various typologies. Integration of the acquired knowledge into the design processing of various topics.

#### Interdisciplinary competences

##### Methodical competence

Presentation techniques, practical application, ability to reflect, information literacy, research skills

##### Social skills

Communication techniques, linguistic skills

##### Personal skills

Motivation to learn, examination preparation, ability to engage in self-criticism

#### Learning content

By means of the typological analysis of an existing building, the potentials of existing buildings are shown, deficiencies are identified and suggestions for improvement are formulated. Starting from the compiled typological basics, the existing buildings are rearranged, structurally updated and, where required, supplemented in essential areas. The typological consideration of a use as an essential design approach is taught.

#### Type of examination

Presentation Colloquium

#### Literature and learning materials:

T. Jocher, W. Stamm-Teske, A. Lederer, M. Gasser, Raumpilot, Stuttgart, Krämer 2010

M. Dudek: Entwurfsatlas Schule / Kindergärten, Basel, Birkhäuser 2007

R. Hascher: Entwurfsatlas Bürobau, Basel, Birkhäuser 2002

## Module Description: Building Redevelopment

3<sup>rd</sup> Semester

Module Code: BIB		ECTS Credits: 4	
Teaching and learning methods:		Attendance time:	60 full hours
Lecture:	2 SWS	Preparation and follow-up: Term papers / presentations, etc.:	30 full hours
Exercise / internship / seminar:	2 SWS	Total workload:	approx. 120 full hours
Module Coordinator: Prof. Dipl.-Ing. Jörg Wollenweber		Prerequisite for participation: -	

### Desired learning results:

#### Specialist competences

The subject of Building Redevelopment is dealt with in the 3rd semester of the Master's programme. The students' intensive exploration of the existing building stock and urban structures as well as their cultural and environmental factors form the basis of the current teaching. In this context, designs for urban densification, refurbishment of existing buildings and their sustainable implementation appropriate for the material involved are planned. In these projects, urban development aspects as well as construction year category-specific construction types are considered and processed in terms of structure and design within the context of the respective drafts prepared by the students.

#### Interdisciplinary competences

##### Methodical competence

Presentation techniques, practical application, ability to reflect, complex problem-solving, self-directed learning, learning and media competence, information literacy, research skills

##### Social skills

Teamwork, group development, linguistic skills

##### Personal skills

Stress management, motivation to learn, examination preparation, ability to engage in self-criticism

#### Learning content

The lecture series deals with building redevelopment. It starts with the construction year categories and their construction types as well as the explanation of the building survey and its framework conditions. Furthermore, the energy and building physics characteristics of existing buildings and their structural features from today's point of view are explained.

The varied possibilities in dealing with existing buildings are clarified by means of planning examples and implemented projects. In parallel with the lecture, the contents discussed are consolidated in exercises. In addition, the acquired knowledge is applied in a semester assignment dealing with building redevelopment. Solutions for building redevelopment in consideration of cultural, structural and energy aspects are developed.

#### Type of examination

Presentation Colloquium

#### Literature and learning materials:

Detail Praxis – Energetische Sanierung | Schittich, Christian  
 Detail Atlas Sanierung | Giebeler, Fisch, Krause, Lenz, Musso, Rudolphi  
 Detail – Bauen im Bestand | Richarz, Schulz, Zeitler  
 Weiterbauen | Schneider, Enno / Jester, Katharina

## Module Description: Methodological Design 2

3<sup>rd</sup> Semester

Module Code: MET2		ECTS Credits: 4	
Teaching and learning methods:		Attendance time: 60 full hours	
Lecture:	2 SWS	Preparation and follow-up:	30 full hours
Exercise / internship / seminar:	2 SWS	Term papers / presentations, etc.:	30 full hours
		Total workload:	approx. 120 full hours
Module Coordinator: Prof. Dipl.-Ing. Thomas Tünnemann		Prerequisite for participation: -	

### Desired learning results:

#### Specialist competences

Knowledge of contemporary and historical interrelation between art, craft and architecture. Explore important conceptional positions and special design methods in art and design with the aim to further develop own designs. Ability to explain and classify own design concepts.

#### Interdisciplinary competences

##### Methodical competence

Presentation techniques, practical application, ability to reflect, complex problem-solving, self-directed learning, learning and thinking strategies, media competence, information literacy, research skills

##### Social skills

Teamwork, group development, role flexibility, communication techniques, conflict management

##### Personal skills

Motivation to learn, examination preparation, ability to engage in self-criticism

#### Learning content

- examination of special design methods and concepts of fine arts and design
- discussing ideas of the all-embracing art form with focus on the relation between fine arts and architecture
- the practical exercises and impromptu designs refer to the special design methods and concepts of the related disciplines
- the results are presented and discussed by the group in a suitable form

#### Type of examination

Presentation Colloquium

#### Literature and learning materials:

Project-related reference library

## Module Description: Project Development

3<sup>rd</sup> Semester

Module Code: PE		ECTS Credits: 4	
Teaching and learning methods:		Attendance time: 60 full hours	
Lecture:	2 SWS	Preparation and follow-up:	30 full hours
Exercise / internship / seminar:	2 SWS	Term papers / presentations, etc.:	30 full hours
		Total workload:	approx. 120 full hours
Module Coordinator: Academic dean		Prerequisite for participation: -	

### Desired learning results:

#### Specialist competences

- methodological development of the project development and project control processes as extended management quality in the architect's profession; development of basic knowledge of economic consideration of real estate projects
- learning and further developing methods for independent problem-solving in project development and its economic efficiency analysis
- learning and further developing methods for independent development of potential project strategies for planning and implementation; development of strategic understanding of the essential project parameters

#### Interdisciplinary competences

##### Methodical competence

Scientific writing, practical application, ability to reflect, complex problem-solving, self-directed learning, learning and thinking strategies, project management, research skills

##### Social skills

Teamwork, group development, role flexibility, conflict management

##### Personal skills

Stress management, motivation to learn, examination preparation, ability to engage in self-criticism

#### Learning content

- tasks and fields of activities of the real estate project development as a builder
- introduction to the economic consideration of real estate as investment properties by means of residual value and development calculation
- analysis of project parameters and strategic direction to achieve project success
- tasks and fields of activities of project control according to *AHO* [Ausschuss der Verbände und Kammern der Ingenieure und Architekten für die Honorarordnung, committee of the associations and chambers of the engineers and architects for the regulations on fees]
- distinction between management and control tasks

#### Type of examination

Presentation Colloquium

#### Literature and learning materials:

"AHO Heft Nr. 9 Projektmanagementleistungen in der Bau- und Immobilienwirtschaft", Bundesanzeiger Verlag, 4. Auflage, 2014

"Immobilienökonomie Band I-IV", Karl-Werner-Schulte, Oldenbourg Verlag, 4. Auflage, 2008

"Projektmanagement und Projektsteuerung für die Immobilien- und Bauwirtschaft", Dr. jur. Klaus Eschenbruch, Werner Verlag 3. Auflage, 2009

"Immobilienmanagement im Lebenszyklus"; Claus Jürgen Diederichs, 2. Erweiterte Auflage, Springer Verlag 2005

## Module Description: Project 4M (Master's thesis)

4<sup>th</sup> Semester

Module Code: PRO 4M		ECTS Credits: 30	
Teaching and learning methods:		Attendance time:	
Lecture:	- SWS	Preparation and follow-up:	0 full hours
Exercise / internship / seminar:	- SWS	Term papers / presentations, etc.:	0 full hours
		Total workload:	900 full hours
			approx. 900 full hours
Module Coordinator: Prof. Stefan Werrer / Prof. Dipl.-Ing. Isabel Maria Finkenberger		Prerequisite for participation: all module examinations	

### Desired learning results:

#### Specialist competences

The Master's thesis serves to prove the ability to expand on the knowledge acquired in the programme in selected fields, to independently solve a sophisticated architectural planning task in all relevant scales and to intellectually and scientifically explore a complex problem on all levels. The student's own architectural approach is demonstrated by applying the design skills acquired in the programme.

#### Interdisciplinary competences

##### Methodical competence

Presentation techniques, practical application, ability to reflect, complex problem-solving, self-directed learning, learning and thinking strategies, project management, media competence, information literacy, research skills

##### Social skills

Communication techniques, linguistic skills

##### Personal skills

Stress management, motivation to learn, examination preparation, ability to engage in self-criticism

#### Learning content

Independent scientific solution of a complex planning task with potential interdisciplinary contents. Conceptual formulation of possible solutions. Developing a solution by taking all decisive factors into account. Professional presentation in a colloquium.

#### Type of examination

Presentation Colloquium

#### Literature and learning materials:

Project-related reference library