



**Module Handbook
Master's Program in Urban Design
(M.Sc.)**

Faculty of Architecture

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Project I – Sustainable Urban Design & Sustainability

(Project I - Urban Design and Sustainability)

Responsible for the module :	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	1st semester
Credit points:	14 CP	Number of participants:	25
Weekly semester hours:	8 SWS	Language of instruction:	German
Examination:	Design	Type:	PL

Student working hours:	242 hours of self-study, 108 hours of lectures and supervision of exercises
Course form:	Lectures, supervised exercises and free work
Requirements for participation:	no
Frequency of the offer:	winter semester

Teaching content:

The students work on a complex urban development or planning design task. In the design work, they deepen their design skills. In doing so, they learn to understand, apply and weigh up the requirements, interdependencies and conflicting goals of different sustainability aspects. Aspects such as mobility, energy, nutrition, material cycles, climate change, water management, coexistence, participation and governance are examined as factors that shape the design and integrated into the design project.

Competence goals:

Students who successfully complete this module are able:

- to understand the requirements, interdependencies and conflicting objectives of different sustainability aspects
- to apply acquired professional skills on sustainability aspects in the design process
- to evaluate conflicting objectives and making appropriate design decisions
- to design the project work in an appropriately communicative, interactive and work-organized manner and to present and communicate the work results appropriately to specialist groups, the public or to external actors of the planning task
- to work on a complex project task in a team
- to reflect on one's own approaches and to classify them in urban planning spatial concepts

Project II – Process Design

(Project II – Process Design)

Responsible for the module :	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	2nd semester
Credit points:	14 CP	Number of participants:	25
Weekly semester hours:	8 SWS	Language of instruction:	German
Examination :	Design	Type:	PL

Student working hours:	242 hours of self-study, 108 hours of lectures and supervision of exercises
Course form:	Lectures, supervised exercises and free work
Requirements for participation:	no
Frequency of the offer:	summer semester

Teaching content:

The students develop concepts for a planning task both at the level of developing concrete spatial solution proposals (draft) and in terms of conceptualizing and modeling a planning process. They generate the basis for this from data (e.g. demographics, climate, mobility), geoinformation, results of actor analyses, surveys, interviews and observations from field research. The aim here is to relate the different levels of observation to one another and to use them specifically for the development of processes and design scenarios. The process includes a) modeling the formal planning instruments and their control options, b) modeling the interactions of actors and c) designing the process with a view to openness to adaptation strategies.

Competence goals:

Students who successfully complete this module are able:

- to relate data research and results from field research to each other and to use them as a basis for their design/planning decisions.
- to use and model the formal instruments in the different phases of a planning process for a specific planning task
- to understand the interdependencies of actors and their interactions for a planning process and to develop process scenarios
- to understand the tension between clearly defined planning goals and the required openness of processes
- to transfer planning objectives and adaptation strategies into process modelling
- to design the project work in an appropriately communicative, interactive and work-organized manner and to present and communicate the work results appropriately to specialist groups, the public or to external actors of the planning task
- to work on a complex project task in a team
- to reflect on one's own approaches and to classify them in urban planning spatial concepts

Project III – Urban Design & Infrastructure

(Project III – Urban Design and Infrastructure)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	3rd semester
Credit points:	14 CP	Number of participants:	25
Weekly semester hours:	8 SWS	Language of instruction:	German
Examination:	Design	Type:	PL

Student working hours:	242 hours of self-study, 108 hours of lectures and supervision of exercises
Course form	Lectures, supervised exercises and free work
Requirements for participation:	no
Frequency of the offer:	winter semester

Teaching content:

In this project, the students work on a design and planning task that deals in depth with the role of infrastructures: transport networks, water and sewage infrastructures, energy supply, blue-green infrastructures, social infrastructures, local supply, etc. In their projects, the students explore the interdependencies of these infrastructures, in particular the interaction and conflicting goals with regard to sustainable urban development. Current concepts of urban development (e.g. 15-minute city, sponge city, etc.) are examined for the processing of the specific design tasks and used for design development. The relationship between physical infrastructures and action patterns in space (mobility behavior, etc.) is also considered. In the specific study project, in addition to the holistic concept, some infrastructural aspects are dealt with in particular depth.

Competence goals:

Students who successfully complete this module are able:

- to understand the interdependencies of different infrastructure systems and urban planning concepts
- to understand the relationship between physical infrastructures and patterns of action in space
- to understand current concepts of urban development and their significance for planning decisions
- to analyse the interaction of infrastructures and planning conflicts for sustainable urban development and to use them in a conceptually justified way in the design
- to design the project work in an appropriately communicative, interactive and work-organized manner and to present and communicate the work results appropriately to specialist groups, the public or to external actors of the planning task
- to work on a complex project task in a team
- to reflect on one's own approaches and to classify them in urban planning spatial concepts

Planning I – Interaction & Processes

(*Planning I – Interaction & Processes*)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	1st semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	3 SWS	Language of instruction:	German
Examination:	Course work	Type:	PL

Student working hours:	64 hours of self-study, 36 hours of lectures and supervision of exercises
Course form:	Lectures, supervised exercises and free work
Requirements for participation:	no
Frequency of the offer:	winter semester

Teaching content:

The seminar provides in-depth knowledge from the field of planning theory about the importance of interactions between the different actors in planning processes. The roles, tasks and resources of the different participants are analysed. The duration and phases of planning processes are examined and discussed. With regard to the current transformation processes (climate change, demographics, etc.), we analyse the tension between efficient planning implementation on the one hand and the openness of the planning processes to emerging changes on the other. Communication in the planning process and participation are also critically placed in planning theory contexts. In addition, methodological aspects of communication design are taught and innovative formats are presented and tested.

Competence goals:

Students who successfully complete this module are able:

- to understand the importance of interactions in planning processes
- to understand the roles, tasks, resources and interactions of different actors
- to understand the duration and phases of planning processes and to consider them analytically
- to understand the requirements of transformation tasks for the design of planning processes and to develop appropriate planning goals and strategies
- to understand planning as an open process and developing appropriate planning concepts
- to critically locating communication and participation in planning theory contexts
- to identify and experimentally test methods of communication design in different formats

Planning II – Perspectives of Spatial Planning

(Planning II – Spatial Planning Perspectives)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	1st semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	3 SWS	Language of instruction:	German
Examination:	Course work	Type:	PL

Student working hours:	64 hours of self-study, 36 hours of lectures and supervision of exercises
Course form:	Lectures, supervised exercises and free work
Requirements for participation:	no
Frequency of the offer:	summer semester

Teaching content:

The seminar deals with planning law and urban development policy instruments in the planning process that can be used to control and activate sustainable planning. The role of formal planning instruments is examined (such as spatial planning and building planning law with references to European law; land use planning; urban development planning; species protection law and environmental assessment). The seminar deals with urban development policy in a national and European context with its effects and strategic application possibilities for sustainable transformation processes. In their course work, the students discuss these instruments in the context of sustainability-oriented planning strategies and/or apply them using exemplary planning tasks.

Competence goals:

Students who successfully complete this module are able to:

- to understand planning law as a planning instrument
- to understand and discuss spatial planning and building planning aspects of planning in relation to concrete planning scenarios
- to understand and assess the impact of urban development policy measures and programs on the design opportunities of spatial planning
- to apply the instruments examined in the context of sustainability-oriented planning strategies in exemplary planning tasks

Planning III – Transformations

(Planning III – Transformations)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	1st semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	3 SWS	Language of instruction:	German
Examination:	Course work	Type:	PL

Student working hours:	64 hours of self-study, 36 hours of lectures and supervision of exercises
Course form:	Lectures, supervised exercises and free work
Requirements for participation:	no
Frequency of the offer:	winter semester

Teaching content:

The seminar deals with theories and strategies of planning in the context of transformation research. Transformation research describes, explains, evaluates and supports substantial and systemic change processes. The interactions between society, ecological systems and technological conditions are central here. In this context, students learn to understand the relevance of different planning theory approaches for transformation processes (climate change, technological change, socio-spatial diversity, demographic change, etc.). Students deal with the terms relevant to planning in transformation processes (collective, action, strategies, power, development, social construction and institutions, social innovation and sustainable development, governance and regulation). They learn to classify the planning theory approaches in broader social science debates. In their course work, students deal with the planning-relevant aspects of transformation research.

Competence goals:

Students who successfully complete this module are able:

- to understand the relevance of different planning theory approaches for transformation processes (climate change, technological change, socio-spatial diversity, demographic change, etc.)
- to explain central themes of transformation research and to explain the aspects relevant in the context of planning
- to understand interactions between society, ecological systems and technological development
- to describe and discuss transformations resulting from demographic developments, ecological changes, technological change, for example, in a theory-based manner
- to assess and discuss the effects and interactions of planning on socio-spatial integration processes and sustainable development potentials
- to place planning theory approaches in the broader social science debate about social structures and social action
- to give examples of social dynamics (governance, property, economy, discourse, legislation, etc.) and explain how they influence planning practice

Planning IV - Environmental Design

(Planning IV - Environmental Design)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	1st semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	3 SWS	Language of instruction:	German
Examination:	Course work	Type:	PL

Student working hours:	64 hours of self-study, 36 hours of lectures and supervision of exercises
Course form:	Lectures, supervised exercises and free work
Requirements for participation:	no
Frequency of the offer:	winter semester

Teaching content:

The seminar deals with the understanding and planning of the environment and landscapes in the context of sustainable transformations. Landscapes are understood as both physical spaces and cultural constructions that contribute to knowledge about the relationship between humans and non-human nature. The seminar examines the relationships between the underlying geology, topography, hydrology, soils, vegetation, wildlife and human interventions. The relationships of designed landscapes are considered with the tensions between nature and culture, practice and planned use as well as the visual perception of landscapes and the everyday experiences of their inhabitants. In this complex field, the seminar sheds light on the background and implementation options of design and planning concepts for environmental design.

In their course work, the students examine the existing ecological and cultural systems and processes, as well as the role and possibilities of design and planning activities.

Competence goals:

Students who successfully complete this module are able:

- to landscape both as physical spaces and as cultural constructions and to explain these relationships using concrete examples.
- to understand and reflect on the conditions and implementation possibilities of design and planning concepts of environmental design in different contexts
- to identify qualities and transformation potentials of existing ecological and cultural systems
- to assess the possibilities of design and planning action using concrete examples

Planning Tools I – Data & Simulation

(Planning Tools I – Data & Simulation)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	2nd semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	3 SWS	Language of instruction:	German
Examination:	Portfolio	Type:	PL

Student working hours:	64 hours of self-study, 36 hours of lectures and supervision of exercises
Course form:	lectures and free work
Requirements for participation:	no
Frequency of the offer:	winter semester

Teaching content:

The course teaches:

- theoretical foundations and basic concepts of geoinformatics relevant to urban planning
- Insights into the diverse applications of geoinformatics applications in urban planning
- geodetic-cartographic fundamentals
- Possibilities for urban development-related data acquisition using databases
- methods of data analysis
- Integration of geoinformation data into CAD applications
- Visualization of urban 3D models
- Basics of simulation and modelling of urban planning scenarios

Competence goals:

Students who successfully complete this module are able:

- to understand basic terms from geoinformatics
- to create urban 3D models
- to identify the possibilities of applications from the field of geoinformation (e.g. QGIS) in the planning and design process
- to using databases and integrating data into planning processes
- to create simple simulations and models
- to master interfaces between CAD and GIS

Planning Tools II – Data & Simulation

(Planning Tools II – Data & Simulation)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	2nd semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	3 SWS	Language of instruction:	German
Examination:	Portfolio	Type:	PL

Student working hours:	64 hours of self-study, 36 hours of lectures and supervision of exercises
Course form:	lectures and free work
Requirements for participation:	no
Frequency of the offer:	summer semester

Teaching content:

The course teaches:

- in-depth theoretical questions of geoinformatics relevant to urban development
- advanced geoinformation applications in the field of sustainable urban planning
- geodetic-cartographic knowledge
- in-depth perspectives on urban development-related data acquisition using databases
- methods of data analysis
- Integration of geoinformatics data into CAD and BIM applications
- Practices of simulation and modeling of urban planning scenarios

Competence goals:

Students who successfully complete this module are able:

- to understand advanced terms from geoinformatics
- to create complex urban 3D models
- to apply applications from the field of geoinformation (e.g. QGIS) in the planning and design process
- to use databases and integrate data into complex planning processes
- to simulate and model urban planning projects based on data
- to interface between GIS, CAD and BIM applications

Theory I – Methods in Urban Design Studies

(Theory I – Methods in Urban Design Studies)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	1st semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	3 SWS	Language of instruction:	German
Examination:	Course work	Type:	PL

Student working hours:	64 hours of self-study, 36 hours of lectures and supervision of exercises
Course form:	Lectures, supervised exercises and free work
Requirements for participation:	no
Frequency of the offer:	winter semester

Teaching content:

The course teaches scientific methods from the field of urban design studies. The focus is on knowledge of the theoretical foundations of the subject of urban design in the context of science and technology studies. It provides an overview of the spectrum of knowledge relevant to the development of scientific problems in the area of analysis, planning and communication of urban development projects and processes. Using exemplary case studies, the interdisciplinary nature of urban research and its operative potential for planning and the practice of design are demonstrated. The historical development lines of the scientific discipline of urban design are addressed in the context of scientific research. The productive field of tension between human and social science methods and 'research by design' approaches are demonstrated. This is intended to enable students to understand scientific approaches in the field of urban development on the one hand and to scientifically ground their planning practice on the other.

Competence goals:

Students who successfully complete this module are able:

- to understand urban design is to be understood as an interdisciplinary field of knowledge that mediates between design, planning, analytical and technical competencies as a science of action
- to identify methodological approaches in the field of Urban Design Studies
- operationalize methodological knowledge for the development of one's own research questions and designs
- to use methods to develop your own critical-innovative approaches
- to understand and scientifically classify current urban planning phenomena, debates and projects
- to take a critical position on various design and planning projects and theories of urban planning based on knowledge and arguments
- to argue scientifically and critically through one's own lectures, texts and drafts

Theory II – Theories of Urban Sustainability

(Theory II – Theories of Urban Sustainability)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	1st semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	3 SWS	Language of instruction:	German
Examination:	Course work	Type:	PL

Student working hours:	64 hours of self-study, 36 hours of lectures and supervision of exercises
Course form:	Lectures, supervised exercises and free work
Requirements for participation:	no
Frequency of the offer:	summer semester

Teaching content:

The course covers the basic concepts of sustainability research with a special focus on the planning of urban and rural areas. Questions of sustainable urban development are taught from interdisciplinary research perspectives and include ecological, economic, sociological, technical, historical and ethical aspects. Questions about climate change, resource management, energy, mobility, biodiversity, demographic and sociological change are topics that have direct spatial consequences. The course provides an overview of basic theoretical positions and historical lines of development of sustainability discourses. Using meaningful case studies, students are enabled to understand the importance of sustainability in the context of urban development. At the same time, theoretical foundations are to be created in order to strengthen the planning and design implementation in the project through critical sustainability knowledge.

Competence goals:

Students who successfully complete this module are able:

- to understand different theories of sustainability and their historical dimensions
- to understand the interdisciplinary nature of urban sustainability approaches and to analyze them using real projects
- to analyze spatial transformations from the perspective of sustainable development
- to critically question and discuss different models of thought and practices of sustainable urban planning
- to question their own planning and design methods and practices from a sustainability perspective

Research Seminar I – Urban Design Studies

(Research Seminar I – Urban Design Studies)

Responsible for the module:	Lutz Robbers Ph.D .	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	2nd semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	3 SWS	Language of instruction:	German
Examination:	Course work	Type:	PL

Student working hours:	64 hours of self-study, 36 hours of lectures and supervision of exercises
Course form:	seminar and free work
Requirements for participation:	no
Frequency of the offer:	winter semester

Teaching content:

The seminar deals with current research questions from urban design studies. The focus is on future-oriented topics of contemporary thinking and today's urban planning. By reading research papers and analyzing relevant urban development projects, participants become familiar with the current field of knowledge and, over the course of the course, locate their own position within this field of research. The practice of and discussion of methods and media of urban research and practice is combined with the intention of actively guiding students to develop their own scientific and operational questions. The students develop a course paper guided by their own interests, the progress of which is presented as the seminar progresses. The aim of the seminar is to prepare the individual scientific master's thesis.

Competence goals:

Students who successfully complete this module are able:

- to be familiar with current research topics in the field of Urban Design Studies
- to identify, analyse and critically discuss relevant research methods and their media
- to independently use tools of scientific research in the field of Urban Design Studies
- to recognize, discuss and evaluate the relationships between scientific approaches and operational urban planning practice
- to formulate your own research questions, to articulate them in words and pictures and to discuss them critically
- to develop basic research strategies with regard to one's own scientific master's thesis

Research Seminar II – Urban Design Studies

(Research Seminar II – Urban Design Studies)

Responsible for the module:	Lutz Robbers Ph.D.	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	2nd semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	3 SWS	Language of instruction:	German
Examination:	Course work	Type:	PL

Student working hours:	64 hours of self-study, 36 hours of lectures and supervision of exercises
Course form:	seminar and free work
Requirements for participation:	no
Frequency of the offer:	summer semester

Teaching content:

The seminar is a continuation of Research Seminar I. It delves deeper into current research questions from Urban Design Studies. The focus is on developing one's own scientific questions in the context of current research and topics in urban planning. By reading contemporary literature and analysing relevant urban planning projects, students advance their own research projects by testing potential methods, concretizing case studies and sharpening theses. The practice of and discussion of methods and media of urban research and practice is combined with the intention of supporting students in the development of an individual, substantial, scientific work with a view to their master's thesis.

Competence goals:

Students who successfully complete this module are able:

- to be familiar with current research topics in the field of Urban Design Studies
- to identify, analyse and critically discuss relevant research methods and their media
- to independently use tools of scientific research in the field of Urban Design Studies
- to recognize, discuss and evaluate the relationships between scientific approaches and operational urban planning practice
- to concretize one's own research questions and to articulate them in the form of an individual course work in a scientifically substantial form and to discuss them critically in front of a specialist audience

Elective module I

(Elective Module I)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	2nd semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	SWS	Language of instruction:	German
Examination:	Course work	Type:	SL

Student working hours:	64 - 82 hours of self-study, 18 - 36 hours of lectures and supervision of exercises
Course form:	Lectures, supervised exercises and free work
Requirements for participation:	Depending on the course offered
Frequency of the offer:	Every semester

Teaching content:

Students must take two or more freely selectable modules from the elective offering in the field of Urban Design with a total of at least 8 credit points.

Modules taken in other departments or universities that are conducive to the objectives of the Master's degree program in Architecture can also be recognized as equivalent.

The examination board decides on recognition.

The competency objectives and the examination format will be announced in good time before the start of the semester.

Competence goals:

Students who successfully complete this module are able:

- to meet the competency objectives of the respective elective module

Elective module II

(Elective Module II)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	3rd semester
Credit points:	4 CP	Number of participants:	25
Weekly semester hours:	SWS	Language of instruction:	German
Examination:	Course work	Type:	SL

Student working hours:	64 - 82 hours of self-study, 18 - 36 hours of lectures and supervision of exercises
Course form:	Lectures, supervised exercises and free work
Requirements for participation:	Depending on the course offered
Frequency of the offer:	Every semester

Teaching content:

Students must take two or more freely selectable modules from the elective offering in the field of Urban Design with a total of at least 8 credit points.

Modules taken in other departments or universities that are conducive to the objectives of the Master's degree program in Architecture can also be recognized as equivalent.

The examination board decides on recognition.

The competency objectives and the examination format will be announced in good time before the start of the semester.

Competence goals:

Students who successfully complete this module are able:

- to fulfill the competency objectives of the respective elective module

Master's thesis

(*Master's thesis*)

Responsible for the module:	NN	Module code:	MSc
Offered in the study program:	Urban Design, M.Sc.	Offered in semester:	4th semester
Credit points:	30 CP	Number of participants:	
Weekly semester hours:		Language of instruction:	German
Examination:	Master's thesis University Public Colloquium	Type:	MSc

Student working hours:	750 hours of self-study, 3 hours of supervision and colloquium
Course form:	Supervision, colloquium and independent work

Teaching content:

The main content of the master's thesis is the independent development and elaboration of an urban development project based on scientific principles and/or a theoretical work from the field of urban studies of appropriate complexity. It is possible to combine the two fields of expertise. The formal requirements of the master's thesis and the work to be performed must be defined in writing by the first examiners. The master's thesis is issued after the processing time has elapsed and then presented in a colloquium open to the university. The design and colloquium are assessed with an overall grade.

Competence goals:

Students who successfully complete this module are able:

- to independently analyse and formulate a complex urban planning problem
- to independently develop a scientific question from the field of Urban Design Studies
- to apply scientific methods to the task at hand
- to localize one's own work in the current field of knowledge
- to structure your own work sensibly
- to convey your own master's thesis in a scientifically adequate manner linguistically and visually
- to develop, elaborate and present an independent theoretical reflection and/or an independent urban planning idea