technische universität
dortmund

MODULE HANDBOOK

M.Sc. Urban Transformation

Version: 11.02.2026

Department of Spatial Planning

Modules Master Urban Transformation

Abbreviations

T	Tutorial/Übung
SE	Seminar
L	Lecture
PJ	Project
(P)	Obligatory
(E)	Elective

Module 1: Urban transformation – a theoretical and practical introduction

Study program: M.Sc. Urban Transformation

Regular Cycle:	Duration:	Taught:	CP:	Effort:
Winter term	1 term	1st term	10	300 h

1 Module Structure:

Nr.	Element/Course	Type	CP	Hours per week
1	Urban Transformation	L	2	2
2	Tutorial	T	4	2
3	Urban Transformation and Planning in Germany and selected EU Countries	L	2	2
4	Module Examination		2	

2	**Language of tuition:** English
3	**Course content:** In this module, in-depth knowledge of current research in the field of spatial planning and urban transformation as well as research practice, epistemology and methodology is taught. Element 1 provides an overview of current projects, topics and research questions relating to the processes, content and formats of urban transformation in Germany and abroad. This also includes an overview on the research landscape (funding institutions, research facilities, career paths), the basics of applying for funding, good scientific practice and the exemplary presentation of current research projects. Scientific policy advice is also addressed. Element 2 consists of an accompanying tutorial dealing with thematic and methodological issues in research on urban transformation. The exercises include actor analysis, qualitative content analysis of documents using a code system, comparative research, and research designs in published studies or journal articles. In addition, students develop an example of their own choice (research task or example of urban transformation) and apply the lecture content to it (theory transfer). Element 3 serves as an introduction to the field of urban transformation in Germany and selected EU countries (including the German planning system).
4	**Competences:** In Element 1, students acquire the fundamentals for a scientific and critical examination of topics related to urban transformation within the framework of the Master's program and develop a self-reflective understanding of their place in spatial research and spatial planning. In Element 2, students acquire knowledge of advanced working and research methods. The aim is to gain a broad overview of research methods and to gain practical experience in the exemplary application of selected methods. Students can apply the lecture content to the analysis of concrete examples from planning practice.

	After completing Element 3, students will be able to classify the challenges of urban transformation in the context of the German multi-level planning system.
5	**Examination:** Module examination (graded); 1 course exercise (not graded)
6	**Type of examination/Course exercises:** 1 course exercise (in Element 1: several Quiz during lecture period); Module examination: Poster presentation. Transfer of lecture content to a self-selected example of urban transformation in Element 2
7	**Recommended prior knowledge:** none
8	**Formal requirements:** none
9	**Module type and corresponding program:** compulsory module in M.Sc. Urban Transformation

10	**Module coordinator:** Zimmermann	**Department:** Spatial Planning (09)

11	**Literature:**
12	**Further information:**

Module 2: Contents, processes, objectives and examples of urban transformation

Study Program: M.Sc. Urban Transformation

Regular Cycle:	Duration:	Taught:	CP:	Effort:
Each term	2 terms	1st-2nd term	20	600 h

1 Module Structure:

Nr.	Element/Course	Type	CP	Hours per week
1	Seminar	SE (E)	5	2
2	Seminar	SE (E)	5	2
3	Seminar	SE (E)	5	2
4	Seminar	SE (E)	5	2

2	**Language of tuition:** English
3	**Course content:** In this module, seminars address topics and examples of urban transformation and reflect on them from a theoretical perspective. Students can set their own thematic priorities. The seminars address the content, processes and goals of urban transformation from different perspectives. A broad variety of research groups participate in the module and offer a variety of seminars from which students can choose. The topics offered include, for example, climate resilience, heterogeneous Infrastructures, nature-based solutions, urban river restoration, eco-urban neighborhoods, digital geographies or urban densification.
4	**Competencies:** In module 2, students deepen their knowledge on urban transformation within the thematic seminars offered. Students engage intensively with the current state of research in specific topics of urban transformation and are able to reflect on the knowledge they have acquired and apply it in research and practice.
5	**Examination:** 4 partial assignments (graded)
6	**Type of examination/Course exercises:** Partial assignments (graded): Partial assignments are part of each course. Students give a presentation in each seminar and summarize the key points of their presentation in a paper of no more than 2,000 words (excluding bibliography). After the presentation, they incorporate the feedback into the paper. Each student takes on the role of discussant for another presentation. Courses that are not offered by the Department of Spatial Planning may also be completed with a graded partial performance using a form of examination other than the one specified.
7	**Recommended prior knowledge:** none

8	**Formal requirements:** none
9	**Module type and corresponding program:** compulsory module in M.Sc. Urban Transformation

10	**Module coordinator:** Siedentop	**Department:** Spatial Planning (09)

11	Literature:
12	Further information:

Module 3: Spatial analysis and visualization

Study program: M.Sc. Urban Transformation

Regular Cycle:	Duration:	Taught:	CP:	Effort:
Winter term	1 term	1st term	10	300 h

1 Module Structure:

Nr.	Element/Course	Type	CP	Hours per week
1	Spatial analysis and visualization	L/S	2	2
2	Spatial analysis	T	4	2
3	Visualization	T	4	2

2	**Language of tuition:** English
3	**Course content:** This module introduces students to data science methods of spatial analysis and related visualization techniques. The lecture component first lays a conceptual foundation. This includes an introduction to epistemological issues, the formalization of spatial relationships, various methods of spatial correlation and regression, and the interpretation of related results. In addition to this analytical focus, the lecture will also introduce the basics of geovisualization, such as semiotic-communicative aspects, map network designs, visualization types and other content. Both aspects will also be taught in a practical manner in the form of exercises to enable students to carry out their own investigations. Furthermore, the above-mentioned content will be explored in depth in accompanying exercises through the discussion of spatial analysis literature from the context of planning science. The aim of the tutorial is to enable students to competently read and discuss spatial analysis literature with regard to urban transformation.
4	**Competences:** Competent handling of spatial analysis methods and techniques, ability to assess the validity and accuracy of spatial analyses, ability to perform own spatial analyses, including identification of suitable data and methods, critical assessment of own analysis results, ability to visualize geodata and critically understand related communication aspects.
5	**Examination:** 2 partial assignments (graded) Partial assignment 1 (seminar with lecture components): Critical discussion of an academic article on spatial analysis, including geovisualizations, comprising 5,000 words (excluding bibliography) Partial assignment 2 (combined, both exercises): Implementation of a practical analysis and visualization project, which is documented and discussed in the form of a project report of 5,000 words (excluding bibliography).
6	**Type of examination/Course assignments:** Written assignment (Element 1), Project (practical analysis) incl. report (Elements 2 and 3)

7	**Recommended prior knowledge:** none
8	**Formal requirements:** none
9	**Module type and corresponding program:** compulsory module in M.Sc. Urban Transformation

10	**Module coordinator:** Westerholt	**Department:** Spatial Planning (09)

11	**Literature:**
12	**Further information:**

Module 4: Individual project

Study program: M.Sc. Urban Transformation

Regular Cycle:	Duration:	Taught:	CP:	Effort:
Summer term	1 term	2nd term	10	300 h

1 Module structure

Nr.	Element/Course	Type	CP	Hours per week
1a	Self-selected urban transformation project	PC/ SE (E)	4	1
1b	Internship	PC/ SE (E)	4	1
2	Module examination		6	

2	**Language of tuition:** English
3	**Course content:** Students either complete a self-organized internship, working on a real-life task from planning practice, which they reflect on scientifically against the background of the knowledge acquired during their studies or, alternatively, students have the opportunity to develop their own research project on urban transformation design and reflect on the planned steps and processes from an academic perspective, using an exemplary spatial situation in a city as a starting point. An internship can also be completed in one of the research projects of the Faculty of Spatial Planning.
4	**Competences:** Students acquire skills in project management, analysis and presentation techniques, learn communication skills and gain practical experience, including reflection on practice. Students can work on a real task from planning practice or a research project under supervision and document the work steps in a comprehensible manner.
5	**Examination:** Module examination (graded); 1 course exercise (not graded)
6	**Type of examination/Course exercises:** Course exercise: interim presentation Module examination: a written report on the project or internship with a maximum length of 10,000 words (graded)
7	**Recommended prior knowledge:** module 3
8	**Formal requirements:** none
9	**Module type and corresponding program:** compulsory module in M.Sc. Urban Transformation

10	**Module coordinator:** Othengrafen	**Department:** Spatial Planning (09)

11	Literature:
12	Further information:

Module 5: Scientific skills

Study program: M.Sc. Urban Transformation

Regular Cycle:	Duration:	Taught:	CP:	Effort:
Summer term	1 term	2nd term	10	300 h

1 Module structure

Nr.	Element/Course	Type	CP	Hours per week
1	Research Design	SE	5	2
2	Writing Skills	T	5	2

2	**Language of tuition:** English
3	**Course Content**: The module's main goal is to prepare students for the master thesis and independent academic work. Students practice academic writing and revising texts, narrowing down and operationalizing a research question, selecting suitable qualitative and quantitative methods. Students learn also about research ethics.
4	**Competences:** Students deepen their existing foundations in scientific work and can apply qualitative and quantitative methods in a competent way. They can develop a scientific question in the context of a master's thesis and present their work in an exposé.
5	**Exams:** Partial assignment 1 (graded); Partial assignment 2 (graded)
6	**Type of examination/Course exercises:** Partial assignment 1 in element 1: Portfolio consisting of a collection of assignments including revisions and a reflection of the learning process. Partial assignment 2 in element 2: Portfolio consisting of a collection of assignments including revisions and a reflection of the learning process
7	**Recommended prior knowledge:** none
8	**Formal requirements:** none
9	**Module type and corresponding program:** compulsory module in M.Sc. Urban Transformation

10	**Module coordinator:** Feiertag	**Department:** Spatial Planning (09)

11	**Literature:**
12	**Further information:**

Module 6: Planning in a political world

Study program: M.Sc. Urban Transformation

Regular Cycle:	Duration:	Taught:	CP:	Effort:
Winter term	1 term	3rd term	8	240 h

1 Module structure

Nr.	Element/Course	Type	CP	Hours per week
1	Governance and Policy Advice	L	2	2
2	Policy Work	T	6	2

2	**Language of tuition:** English
3	**Course Content:** In today's dynamic political environment scientific evidence to justify and inform political decisions and strategies has become more and more sought after. This typically involves concrete questions such as "how will demographic change impact regional disparities?", "what stance to take on migration in light of tight labor markets?". In this module we will work on real life political consulting requests to which we provide policy briefs which encompass analysis, proposed operationalization and expected outcomes based on scientific evidence. Hence, the module deals with the relationship between planning and politics, including strategic and tactical options to influence the challenges that stand in the way of implementing urban transformation projects. The lecture will address topics such as conflict management and planning communication, political decision-making theories, governance, multi-level approaches, implementation research, planning theory, and public administration. In addition, methods and approaches of scientific policy advice and policy work (such as policy packages and evaluation) and their scientific reflection are discussed.
4	**Competences:** Students can reflect on urban transformation as a political process and identify and address implementation gaps and conflicts in their causal structure. Element 2 qualifies students for work in the field of accompanying research or policy consulting.
5	**Exams:** Module examination in Element 2 (graded); Course exercise in Element 1 (ungraded)
6	**Type of examination/Course exercises:** Course exercise: Group Presentation in element 1; Module examination: Blitz-presentation and executive summary in element 2
7	**Recommended prior knowledge:** none
8	**Formal requirements:** none

9	**Module type and corresponding program:** compulsory module in M.Sc. Urban Transformation

10	**Module coordinator:** Hellmanzik	**Department:** Spatial Planning (09)

11	Literature:
12	Further information:

Module 7: Forms and formats of intervention

Study program: M.Sc. Urban Transformation

Turnus:	Duration:	Taught:	CP:	Effort:
Winter term	1 term	3rd term	10	300 h

1 Module Structure

Nr.	Element/Course	Type	CP	Hours per week
1	Seminar on tactical approaches (e.g. experiments, co-production)	SE (E)	4	2
2	Seminar on strategic approaches (e.g. strategic planning)	SE (E)	4	2
3	Module examination		2	

2	**Language of tuition:** English
3	**Course content:** This module focuses on various strategic and tactical approaches to designing urban transformation processes. It covers forms and formats of urban transformation such as experiments, (large-scale) projects, real-world laboratories, co-creation, strategic planning, master plans, hierarchical planning instruments, and urban renewal. Cooperative and participatory instruments and approaches are also taught.
4	**Competences:** Students can select and implement those forms of intervention from a portfolio that appear suitable for solving a given urban transformation problem. In addition, students can critically reflect on the effectiveness and implementation of strategic approaches and instruments.
5	**Examination:** Module examination (graded); 2 course exercises (not graded)
6	**Type of examination/Course exercises:** Course exercise: presentation in Element 1 und 2; Module examination: oral exam (25 – 30 minutes)
7	**Recommended prior knowledge:** none
8	**Formal requirements:** none
9	**Module type and corresponding program:** compulsory module in M.Sc. Urban Transformation

10	**Module coordinator:** Wiechmann	**Department:** Spatial Planning (09)

11	**Literature:**
12	**Further information:**

Module 8: Master project

Study program: M.Sc. Urban Transformation

Regular Cycle:	Duration:	Taught:	CP:	Effort:
Winter term	1 term	3rd term	12	360 h

1 Module structure:

Nr.	Element/Course	Type	CP	Hours per week
1	M-Project	PJ (E)	10	8
2	Module examination		2	

2	**Language of tuition:** English
3	**Course content:** Students learn to work cooperatively on complex spatial issues related to urban transformation, applying scientific methods within a given time frame and, developing possible solutions. The master project focuses on the theoretical-analytical or planning-conceptual treatment of a current urban transformation issue in groups. Common topics of urban transformation are: energy transition, climate adaptation, mobility transition, land use transition, digitalization, and socio-economic transformation.
4	**Competences:** Based on a problem-, process-, and action-oriented approach, students deepen their ability to work independently and on their own initiative (research-based learning). At the same time, they strengthen key skills such as communication, discussion, and cooperation, consensus building, conflict resolution, and project coordination. The master project enables students to work and reflect on theoretically and methodologically challenging issues in accordance with scientific standards.
5	**Examination:** Module examination (graded); 1 course exercise (not graded)
6	**Type of examination/Course exercises:** Course exercise: Exposé Module examination: final report including disputation. M-projects are normally elaborated in a group of 4-6 students.
7	**Recommended prior knowledge:** Modules 3 und 5
8	**Formal requirements:** Module 4
9	**Module type and corresponding program:** compulsory module in M.Sc. Urban Transformation

10	**Module coordinator:** Frank	**Department:** Spatial Planning (09)

11	**Literature:**

12	Further information:

Module 9: Master thesis

Study program: M.Sc. Urban Transformation

Regular Cycle:	Duration:	Taught:	CP:	Effort:
Each term	1 term	4th term	30	900 h

1 Module Structure:

Nr.	Element/Course	Type	CP	Hours per week
1	Colloquium	SE	5	1
2	Modul examination thesis		25	

2	**Language of tuition:** English
3	**Course content:** The master's thesis is a scientific work in the field of spatial planning and urban transformation. The thesis may have a theoretical, empirical, or conceptual-design focus. Students can make suggestions for the topic of the thesis.
4	**Competences:** In their master's thesis, students demonstrate their ability to independently address a complex issue relating to urban transformation within a period of four months, in accordance with scientific standards and methods.
5	**Examination:** 2 Course exercises (not graded, element 1); Module examination (graded, element 2)
6	**Type of examination/Course exercises:** Course exercise 1: Exposé; Course exercise 2: Presentation; Module examination: Master Thesis (max. 35 000 words, excl. list of reference Literature) with disputation (30 min)
7	**Recommended prior knowledge:** module 1, 2 and 3
8	**Formal requirements:** module 5
9	**Module type and corresponding program:** compulsory module in M.Sc. Urban Transformation

10	**Module coordinator:** Chair of examination office	**Department:** Spatial Planning (09)

11	**Literature:**
12	**Further information:**