

## Course Catalogue for Summer Semester 2019

as of 01.04.2019

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## SEMINARS

**2 LVS / 3 CP**

*Module: Computational Urban Analysis and Simulation*

Jun.-Prof. Reinhard König

Vertr.-Prof. Sven Schneider

Dipl.-Arch. Ekaterina Fuchkina

M.Arch. Abdulmalik Abdulmawla

### **S Parametric Urban Design and Analysis II**

target group: Master IUDD

language: English

time/ location: Tuesdays, 13.30 – 17.00 pm, Belvederer Allee 1a, Computerpool

start: 02.04.2019

#### Content

Cities are complex human made objects. They consist of thousands of elements and need to satisfy numerous human needs. definition of urban form (street network, plots, building volumes) is a crucial step in the planning of cities because it has the lasting effect on their social, economic and ecological performance. Thus, this step needs to be undertaken with greatest care. In this course we will deal with computational methods to support this process.

The course extends the knowledge and methods you learned in PUDA I. You will learn and train advanced parametric modeling techniques and further analysis methods as well as basic knowledge about statistics to study relationships between urban form and its manifold functions.

You apply the learned skills in an urban planning project for new towns in Ethiopia (IUDD Study Project “Metabolism-based Strategies for Rural-Urban Transformation in Ethiopia”). It is expected that the participants have absolved the course “Parametric Urban Design and Analysis” from the previous semester.

**2 LVS / 3 CP**

*Module: Introduction to Master’s Thesis*

Vertr.-Prof. Sven Schneider

Dipl.-Ing. Philippe Schmidt

### **S Introduction to Master’s Thesis**

target group: Master IUDD

language: English

time/ location: will be announced

start:

#### Content

The preparatory seminar is a combination of various aspects that support students to prepare and organise their master’s thesis. It aims to the individual thematic development of the thesis topic. Derived from the subject areas of IUDD the thesis is concerned with the inductive development of interdisciplinarity. Students are guided through the logic of research, the definition of individual research interest and the more objective need to communicate specific knowledge related to a certain subject of interest. At the end of the seminar, a thesis proposal should be developed based on an adequate research framework and research design, considering methodological aspects and quality of research. This seminar is arranged as intensive workshop with lectures, discussions, exercises and group work.

## **STUDY PROJECT**

*Module: Study Project*

**10 LVS / 15 CP**

Vert.-Prof. Sven Schneider

Dipl.-Ing. Philippe Schmidt

Jun.-Prof. Reinhard König

### **P Circular Urbanism: Metabolism-based Planning Strategies for Rural-Urban Transformation in Ethiopia**

target group: Master IUDD

language: English

time/ location: Thursdays, 09.15 am – 18.30 pm, Belvederer Allee 1a, Computerpool

start: 04.04.2019

#### **Content**

The transformation from a mainly agricultural society to industrialisation that is faced these days in Ethiopia is linked to substantial changes of the country's rural and urban areas. With these shifts, the processes of urbanisation and expectations towards modernisation is seen as a chance to create new and adaptive urban planning proposals that meet specific needs and conditions of the Ethiopian development context in Sub-Saharan Africa. While the World Bank is promoting rapid economic growth for Ethiopia, still the country is one of the poorest countries in the world, and the question arises in how far urban design and planning can create concepts and flexible urban models that are reactive enough to stimulate different scenarios responding for balanced development.

One of the main frameworks to create such a balance for emerging cities are the United Nations Sustainable Development Goals (SDG). Different key factors like food security, energy, water and sanitation are linked to resource questions of material and land and how those can be influential on the development of prospective cities. Thus, for the development of new towns in rapidly urbanizing regions the understanding of material flows and circulation within the urban system is crucial when it comes about any building activity that determines the urban form and what we finally experience as urban, including open and public space and healthy living conditions.

To better understand how such flows of material resources and energy are linked to building activities in rural urbanisation processes and their impact on the existing environment, in our study project, we are referring to urban metabolism as a framework for urban design and planning of small cities.

Participants will be analysing urban patterns and flows of small cities, learn about the context between urban metabolism and its spatial implications and apply tools and methods for a spatial analysis and finally implement that knowledge in spatial models and concepts to simulate possible development scenarios.

## ELECTIVES COURSES

**2 LVS / 3 CP**

*Module: Elective Module*

Jun.-Prof. Reinhard König

### **S Urban Modeling and Simulation - Advanced Methods**

target group:	Master IUDD
language:	English
time/ location:	Wednesdays, 09.15 – 11.00 am, Belvederer Allee 1a, Computerpool
start:	03.04.2019

#### Content

In this seminar, you learn to work with advanced urban modeling and simulation techniques based on system dynamics methods. We deal with the modeling of complex spatial systems on the regional and urban level. In this context computational analysis methods for urban fabric (e.g. for pedestrian movement or economic potentials) and models for computing interactions between land uses are introduced. By means of system dynamics models we can simulate temporal changes of stocks and flows. You apply the learned skills in an urban planning project for new towns in Ethiopia. It is expected that the participants have taken the course "Computational Urban Modeling and Simulation" from the previous semester.

**2 LVS / 3 CP**

*Module: Elective Module*

Dr. Bernhard Stratmann

### **S Urban Australia: Resilience, Sustainability and Headways**

target group:	Master IUDD
language:	English
time/ location:	Mondays, 11.00 – 12.30 am, IfEU, Belvederer Allee 5, Room 007
start:	08.04.2019

#### Content

The seminar will explore major aspects of urban development in Australia, also looking at the historical formation of Australian cities and the links between urban and societal development. Issues to be discussed will include: housing and housing styles; suburbanization and urban renewal; gentrification; segregation; multiculturalism, diversity and urbanity; the compact city model, urban form and sustainable development; transport and infrastructure; economic restructuring and globalisation; cities and regions; place marketing, hallmark events, cities in competition; urban resilience. The concepts employed in the course can be applied to the analysis of urban development in other Western countries, including Germany. In general, the seminar provides students of architecture and of urban studies with an understanding of urban issues as examined by urban sociologists. Being taught overseas the course will commence with an introduction to Australian society, including Aboriginal life and culture.

## **MASTER COLLOQUIUM**

*Module: Master's Thesis*

**2 LVS/ 3 CP**

Dr. Lisa Vollmer / Prof.

**Master Colloquium EU/AdUrb**

target group: Master EU / AdUrb

language: English

time/ location: Block course

start: See notice board

registration: Not necessary, all students accepted for the Master examination have to participate

### **Content**

The course is the platform for presentation and discussion of the Masters theses. The candidates will present the intermediate results of their work on their individual topics. Suggestions for further action will be made by fellow students and academics attending the colloquium. Admission for the Master examination is required for participation. Performance record (attestation) will be achieved by giving an oral presentation.