

Vorlesungsverzeichnis

English-taught courses of the Faculty

Sommer 2022

Stand 30.11.2022

English-taught courses of the Faculty

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English-taught courses of the Faculty

118222404 Computational Methods for User-Centered Architectural Design

S. Schneider, E. Fuchkina, O. Kammler

Veranst. SWS: 2

Seminar

Mo, wöch., 17:00 - 18:30, Belvederer Allee 1a - Allg. Medienpool 003, 11.04.2022 - 04.07.2022

Beschreibung

The creation of spaces lies at the heart of architectural design. To understand how people are affected by the configuration of space, is essential in order to create human-friendly, and thus in the long run, sustainable environments. In this course you will learn different methods for evaluating the 'usability' of buildings. Therefore, we will firstly look at, what 'building usability' actually means and how it can be enhanced (e.g. how does a spatial configuration promote wayfinding, social interaction, spatial experience). Secondly, you will learn computational methods for quantifying spatial configurations for evaluating design proposals (e.g. visibility, accessibility and daylight). Thirdly, we will introduce a VR-based toolbox for conducting pre-occupancy evaluations of building designs.

The seminar is mandatory for students of the project „Design by Research“.

engl. Beschreibung

The creation of spaces lies at the heart of architectural design. To understand how people are affected by the configuration of space, is essential in order to create human-friendly, and thus in the long run, sustainable environments. In this course you will learn different methods for evaluating the 'usability' of buildings. Therefore we will firstly look at, what 'building usability' actually means and how it can be enhanced (e.g. how does a spatial configuration promote wayfinding, social interaction, spatial experience). Secondly, you will learn computational methods for quantifying spatial configurations for evaluating design proposals (e.g. visibility, accessibility and daylight). Thirdly, we will introduce a VR-based toolbox for conducting pre-occupancy evaluations of building designs.

The seminar is mandatory for students of the project „Design by Research“.

Voraussetzungen

Studiengänge: Master Architektur, Master MediaArchitecture

119122403 Parametric Urban Design and Analysis II

A. Abdulmawla, E. Fuchkina, S. Schneider

Veranst. SWS: 2

Seminar

Di, wöch., 13:30 - 15:00, Belvederer Allee 1a - Allg. Medienpool 003, 05.04.2022 - 05.07.2022

Beschreibung

Cities are complex human made objects. They consist of thousands of elements and need to satisfy numerous human needs. The definition of urban form (street network, plots, building volumes) is a crucial step in the planning of cities because it has the longest 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 "Circular Urbanism"). It is expected that the participants have absolved the course "Parametric Urban Design and Analysis" from the previous semester.

Voraussetzungen

Studiengänge: Master Integrated Urban Development and Design (IUDD)

119122703 European Spatial planning

P. Sassi

Veranst. SWS: 2

Seminar

Do, wöch., 09:15 - 10:45, Geschwister-Scholl-Str.8A - Seminarraum 105, 07.04.2022 - 12.05.2022

Do, Einzel, 09:15 - 12:30, Marienstraße 7 B - Seminarraum 103, 28.04.2022 - 28.04.2022

Do, Einzel, 09:15 - 12:30, Marienstraße 7 B - Seminarraum 103, 05.05.2022 - 05.05.2022

Do, wöch., 09:15 - 10:45, Belvederer Allee 5 - Seminarraum 008, 19.05.2022 - 07.07.2022

Do, Einzel, 09:15 - 12:30, Marienstraße 7 B - Seminarraum 103, 02.06.2022 - 02.06.2022

Di, Einzel, 09:00 - 12:00, Abgabe, 09.08.2022 - 09.08.2022

Beschreibung

The seminar "European Spatial Planning" is part of the module "European cities". It is specifically designed for students of the master program "European Urban Studies, M.Sc.". Aim of the seminar is to develop an understanding and a wider reflexion on the diversity of planning cultures in Europe through the analysis of models, theories, key concepts and case studies. Furthermore, this seminar proposes to explore and question more thoroughly some of the main challenges spatial planning is facing in contemporary Europe. We will raise and discuss some of the following questions: what are the main principles of spatial planning in European countries? What are the main challenges spatial planning must face? What are the political and planning responses and what kind of instruments are developed?

Methods: input by the instructor and invited guests; discussions on key topics of spatial planning in Europe; small team works, collective and individual exercises; readings and homework.

Bemerkung

The seminar is compulsory for the students of the Master "European Urban Studies". If you are not involved in the EUS Master and if you want to attend the seminar, please contact Piero Sassi first: piero.sassi@uni-weimar.de

Voraussetzungen

The seminar is compulsory for the students of the Master "European Urban Studies". If you are not involved in the EUS Master and if you want to attend the seminar, please contact Piero Sassi **first**: piero.sassi@uni-weimar.de.

119223301 Computational Design Methods (CDM) :: Advanced

R. König

Veranst. SWS: 2

Seminar

Di, wöch., 11:00 - 12:30, Belvederer Allee 1a - Allg. Medienpool 003, 05.04.2022 - 05.07.2022

Beschreibung

Wir befassen uns mit der Kombination verschiedener räumlicher Analysemethoden mit innovativen generativen Methoden und evolutionären Algorithmen zur Optimierung bestimmter Aspekte urbaner Planungen, städtebaulicher oder architektonischer Entwürfe. Die im Rahmen von Online-Seminaren vermittelten Kenntnisse werden in Konsultationen vertieft. Neben regelmäßigen Übungsaufgaben besteht die Semesterleistung in der Implementierung einer selbst definierten Aufgabe, welche die im Rahmen des Seminars erlernten Fähigkeiten anhand eines praktischen Beispiels anwendet.

Sinnvoll für die Belegung dieses Kurses sind Grundkenntnisse in Rhino3D/Grasshopper. In diesem Seminar werden vor allem die Programmier-Fähigkeiten und deren kreative Anwendung vertieft.

Bemerkung

Die im Rahmen von Online-Seminaren vermittelten Kenntnisse werden in Konsultationen vertieft und anhand mehrerer Übungsaufgaben belegt. Es sind keine technischen Vorkenntnisse erforderlich.

120112402 Computational Urban Analysis

A. Abdulmawla, M. Bielik, S. Schneider

Veranst. SWS: 2

Übung

Mo, wöch., 15:15 - 16:45, Belvederer Allee 1a - Allg. Medienpool 003, 11.04.2022 - 04.07.2022

Beschreibung

Locating and dimensioning spatial objects and with it the creation of spaces is at the heart of urban design. Thereby it is necessary to precast the effects that design decisions have on the behaviour of the future users as well as to estimate the sustainability and resilience of the city. Computational analysis methods can help to support this process due to the fact that they can reveal properties that are hardly recognizable at first intuitive sight. In the seminar you will learn methods for the quantitative analysis of urban space (such as density, accessibility, visibility) and examine in how far these quantities relate to real life phenomena such as the spatial configuration of land uses in a city or the movement patterns of urban users.

Voraussetzungen

Studiengänge: Bachelor Architektur und Bachelor Urbanistik

120122404 Computational Urban Analysis (Ma)

A. Abdulmawla, E. Fuchkina, S. Schneider

Veranst. SWS: 2

Seminar

Mo, wöch., 15:15 - 16:45, Belvederer Allee 1a - Allg. Medienpool 003, 11.04.2022 - 04.07.2022

Beschreibung

Locating and dimensioning spatial objects and with it the creation of spaces is at the heart of urban design. Thereby it is necessary to precast the effects that design decisions have on the behaviour of the future users as well as to estimate the sustainability and resilience of the city. Computational analysis methods can help to support this process due to the fact that they can reveal properties that are hardly recognizable at first intuitive sight. In the seminar you will learn methods for the quantitative analysis of urban space (such as density, accessibility, visibility) and examine in how far these quantities relate to real life phenomena such as the spatial configuration of land uses in a city or the movement patterns of urban users.

Voraussetzungen

Studiengänge: Bachelor Architektur und Bachelor Urbanistik

121123302 Urban Modeling and Simulation (UMS) - Advanced

R. König

Veranst. SWS: 2

Seminar

Mi, wöch., 11:00 - 12:30, Belvederer Allee 1a - Allg. Medienpool 003, 06.04.2022 - 06.07.2022

Beschreibung

Im Rahmen des Seminars werden die Teilnehmer in Methoden der Stadtsimulation eingeführt. Wir werden uns mit der Modellierung komplexer räumlicher Systeme auf regionaler und urbaner Ebene befassen. Es werden Analyse zur Nutzung urbaner Strukturen eingeführt (z.B. Fußgängerströme oder ökonomische Potentiale) sowie Modelle für Interaktionen von Flächennutzungen vorgestellt. Es wird vorgestellt, wie mittels System Dynamics Modellen zeitliche Veränderungen von „Stocks and Flows“ simuliert werden können.

Bemerkung

Die im Rahmen von Online-Seminaren vermittelten Kenntnisse werden in Konsultationen vertieft und anhand mehrerer Übungsaufgaben belegt. Es sind keine technischen Vorkenntnisse erforderlich.

121123701 GIS for Integrated Urban Development Part II**M. Abdelaziz Ibrahim Mousa**

Veranst. SWS: 2

Seminar

Mo, wöch., 13:30 - 15:00, Bauhausstraße 9c - Arbeitsraum 004, 11.04.2022 - 04.07.2022

Beschreibung

Geographic Information Systems (GIS) are a useful tool for multiple disciplines and user groups. In urban development and planning, different constituencies like local authorities interact through GIS e.g. applying it in environmental agencies, transportation, energy, resource and waste management, retail, disaster management, and socio-economics. Collecting, managing, analysing and visualising data with GIS as an information sharing tool can help in different stages of planning processes – from identifying problems to evaluating different planning proposals. Working with GIS allows to create easy understandable maps and to enable communication processes.

This course introduces different spatial analysis of Vector and Raster data based on ESRI ArcGIS Toolbox tools. For developing a complex process through different tools, ModelBuilder will be applied to connect different tools and automates workflow based on different variables and parameter. The participants will be introduced to ModelBuilder interface, properties and how to create, run and edit the Model. Various spatial analysis qualifications will be gained such as where to allocate each use/service based on pre-identified criteria.

Basic knowledge of ArcGIS is required for the course such as create, edit and deal with Geodatabases, feature dataset, feature classes, data selection and visualization.

The course will be assessed based on assignment and final project where participants create their own models and present it. This will be based on an excursion to Chemnitz in the second half of the semester where participants will apply their mapping capacities in GIS in the context of a pedestrian analysis.

121223802 Parametric Energy Modelling and Analysis: Introduction to energy modelling in the urban context**R. König, N.N.**

Veranst. SWS: 2

Seminar

Fr, wöch., 09:15 - 10:45, Belvederer Allee 1a - Allg. Medienpool 003, 08.04.2022 - 08.07.2022

Beschreibung

In this module, urbanist and civil engineer Jakob Becker will give insights into energy modelling and simulation in the building context using the programming environment Grasshopper for Rhino.

First, we introduce the students to the basics of the visual programming environment Grasshopper for Rhino (this course does not require experience in working with Grasshopper), of energy-focused architecture and of working with energy and weather data. Afterwards, the students are guided through different examples of energy simulation

applied in urban contexts with the main focus lying on solar radiation simulation and adjacent fields, such as daylight simulation, energy gains calculation, location optimization and geometry definition based on solar radiation and climatic conditions.

This module will give insights into solar urban planning principles and aims to raise the awareness of integrating local climatic conditions into the process of urban planning.

The course is held at the university as well as online. Teaching language is English.

122112401 Parametric Architecture (Ba)

A. Abdulmawla, N.N., S. Schneider

Veranst. SWS: 2

Übung

Mi, wöch., 17:00 - 18:30, Belvederer Allee 1a - Allg. Medienpool 003, 06.04.2022 - 06.07.2022

Beschreibung

Parametric Modeling is a powerful tool in the architectural and urban design process. By creating models, that do not only represent the geometry but rather relationships between the geometrical elements it becomes possible to create numerous variations of a design concept. These design variants can be analysed and optimized for certain criteria. Thereby the designer gains a deeper insight into his/her design concept.

In this seminar you will learn the basics for parametric modeling using the visual programming software Grasshopper for Rhino. After this basic training you apply the methods to an own design concept (architectural or urban scale). For the course no prior knowledge is required.

Bemerkung

Mo, 15:15 - 16:45 Uhr

Ort: Computerpool EG, Belvederer Allee 1a

Beginn: 06.04.2020

Umfang: 3 ECTS

Voraussetzungen

Studiengänge: Bachelor Architektur und Bachelor Urbanistik

122120402 Building a project research paper

M. Lloyd

Veranst. SWS: 2

Seminar

Di, wöch., 13:00 - 15:00, online

Beschreibung

This series of online workshops shall support 2nd semester Master Media Architecture students to understand how to build an academic research paper, that is in response to their working semester projects. Students will fundamentally be able to construct a precise, and concise research paper that indicates a good ability to critically understand a specific subject, through in-depth research. Within these intense workshops students will be able to develop their critical perspectives by understanding what it means to analyze, interpret, and respond to preliminary research, and learn the importance of creating a central argument (thesis statement) within their papers. The overall

aim of these workshops is for students to gain the knowledge of knowing how to narrow their critical perspectives; gather specific research attached to their interested topics; be able to generate analytic questions, and discourse within their found research; and produce a well structured, extensive piece of researched text.

These series of lessons, and written assignments, are focused on supporting students to have further confidence, when it comes to thinking/writing critically about their Media Architecture projects. At the end of the course, Master students shall be required to submit a critical research paper that indicates their ability to analyze subjects, and critical debates attached to their semester projects. Final research papers should be able to indicate the students ability to gather precise research, and supporting material for their argument, while responding towards pre-existing research, that fundamentally places their critical analysis towards contexts related to Media Architecture, and beyond.

Building a research paper shall be composed of 6 intense workshops at 3hours each. Included within this course shall be 15 independent consultations with 2nd semester students -if required. As these consultations throughout the whole sommer semester shall be fundamentally given to 4th semester (thesis) media architecture students, who have expressed to myself that independent consultations with them, within their writing period of their thesis, shall be of great support for them. As former students of mine, I am already well aware of their theses and as such consultations with them would, I am already well prepared for in-depth and precise feedback. - Building a research paper - 6 lessons (18hours) - Individual Consultations - 15 x 45min each. - Times and Dates - TBC.

122122401 Integrated Urbanism - Adaptive Planning Strategies for Rural-Urban Transformation in Ethiopia.

S. Schneider, R. König, P. Schmidt, M. Bielik

Veranst. SWS: 10

Projektmodul

Do, wöch., 09:15 - 18:30, Bauhausstraße 9c - Arbeitsraum 004, 07.04.2022 - 07.07.2022

Di, Einzel, 09:00 - 14:00, Bauhausstraße 9c - Arbeitsraum 004, Abschlussrundgang, 12.07.2022 - 12.07.2022

Beschreibung

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.

Voraussetzungen

Studiengänge: Master Integrated Urban Development and Design (IUDD)

122122402 Freies Projekt Informatik in der Architektur

S. Schneider

Veranst. SWS: 8

Projektmodul

Do, wöch., 09:15 - 16:45, 07.04.2022 - 07.07.2022

122122403 Parametric Architecture**A. Abdulmawla, N.N., S. Schneider**

Veranst. SWS: 2

Seminar

Mi, wöch., 17:00 - 18:30, Belvederer Allee 1a - Allg. Medienpool 003, 06.04.2022 - 06.07.2022

Beschreibung

Parametric Modeling is a powerful tool in the architectural and urban design process. By creating models, that do not only represent the geometry but rather relationships between the geometrical elements it becomes possible to create numerous variations of a design concept. These design variants can be analysed and optimized for certain criteria. Thereby the designer gains a deeper insight into his/her design concept.

In this seminar you will learn the basics for parametric modeling using the visual programming software Grasshopper for Rhino. After this basic training you apply the methods to an own design concept (architectural or urban scale). For the course no prior knowledge is required.

Bemerkung

Mo, 15:15 - 16:45 Uhr

Ort: Computerpool EG, Belvederer Allee 1a

Beginn: 06.04.2020

Umfang: 3 ECTS

Voraussetzungen

Studiengänge: Bachelor Architektur und Bachelor Urbanistik

122123001 Frictions, Fictions, Futures: Designerly ways of dealing with "difference" in an unstable world.**D. Perera**

Veranst. SWS: 2

Blockveranstaltung

Fr, wöch., 11:00 - 15:00, Belvederer Allee 5 - Seminarraum 005, 15.04.2022 - 29.04.2022

Fr, Einzel, 11:00 - 15:00, Belvederer Allee 5 - Seminarraum 005, 06.05.2022 - 06.05.2022

Fr, Einzel, 11:00 - 15:00, Belvederer Allee 5 - Seminarraum 005, 27.05.2022 - 27.05.2022

Fr, wöch., 11:00 - 15:00, Belvederer Allee 5 - Seminarraum 005, 10.06.2022 - 17.06.2022

Fr, Einzel, 11:00 - 15:00, Belvederer Allee 5 - Seminarraum 005, 15.07.2022 - 15.07.2022

Beschreibung**Frictions, Fictions, Futures:****Designerly ways of dealing with difference in an unstable world**

Course description

"As we look back at the design efforts and their implementation, and we contemplate the tasks that are posed in the world today, our feelings are very mixed. We are energized by the great power our technological knowledge bestows on us. We are intimidated by the magnitude of the problems it creates or alerts us to. We are sobered by the very limited success—and sometimes disastrous failure—of past efforts to design on the scale of whole societies. We ask: "if we can go to the moon, why can't we ...? —not expecting an answer, for we know that going to the moon was a simple task indeed, compared with some others we have set for ourselves, such as creating a humane society or a peaceful world. Wherein lies the difference." (Herbert Simon, 1996)

Design researchers/ practitioners who deal with the questions of design and transformation are familiar with the issues of having to work with the values and interests of different stakeholders that are often in tension with each other. In what ways does 'fiction' help relate to the complex and competing values of the vast number of stakeholders (human and more-than-human) of the design process at a studio level or an institutional level? What role does storytelling have when the question of difference(plurality) is not one of epistemology but ontology (pluriversal)? How does design fiction relate to questions of truth(fact), the politics of neoliberalism, and the commonsense it manufactures? What are the possibilities of engaging with 'design-fictioning' to deal with conflicting values and conflicting worlds?

By using these questions as a departure point, this workshop will offer the students an opportunity to explore the potential of design fiction both theoretically and in the context of a real-life project.

Program format- 6 workshop days (Fridays)+ individual consultations (as required)

Program (Important dates)

Note: The workshops will be held on **Fridays**

each day will have a **morning session** dedicated to the discussion of readings and an **afternoon session** for prototyping work.

extra individual meetings can be arranged as required

April 15 **short intro session**

April 22 **WORKSHOP** reading discussion(theme1) + project

April 29 **WORKSHOP** reading discussion(theme2) + project

May 06 **WORKSHOP** reading discussion(theme3) + project

May 27 **WORKSHOP** reading discussion(theme4) + project

June 10 **WORKSHOP** presentation (finetuning project)

June 17 **WORKSHOP** presentation (presentation and suggestion for improvement)

July 15 final submission of refined project for grading

Language- all reading sessions will be conducted in English. Students can conduct their project in English or German.

Expected output- The participants would explore ways of using design fiction in the context of a given real-life case study and produce their own DFs. (More details to follow)

However, those who may want to pursue their own cases/ contexts would be encouraged to do so.

122123003 Modern Architecture of South Asia: History, Theory & Critique

J. Cepl, N.N.

Veranst. SWS: 2

Seminar

Di, wöch., 15:15 - 16:45, Geschwister-Scholl-Str.8A - Seminarraum 002, 05.04.2022 - 05.07.2022

Di, Einzel, 15:15 - 16:45, Geschwister-Scholl-Str.8A - Seminarraum 105, 07.06.2022 - 07.06.2022

Di, Einzel, 15:15 - 16:45, Marienstraße 9 - Seminarraum 203, 05.07.2022 - 05.07.2022

Beschreibung

Architecture, being a diverse discipline, alters in its vocabulary and design sense with changes in the geographical conditions. This course shall explore the origin of Architectural modernism in South Asia and its unique outlook comprehending an indigenous approach. It will cover the diversity of South Asia in terms of soil conditions, food, culture, language and infrastructural evolution, etc.

The architectural legacy of post-independent India (and other countries of South Asia, after disintegration) is unique and it shall be interesting to investigate its contribution to the western narrative of modernism. This attempt may help to understand a rather balanced view of what architectural modernism is! The seminar will focus upon the aspect of modernization in postcolonial contexts, the history of architecture in South Asia - art, design, politics, and modernisms beyond the west. In addition, the Indian magazine Design

(1957-1988) shall be a case study of the critical architectural discourse converging mass media with 'experts' and 'non-experts' that contributed to independent India's development.

The course aims to draw the attention of participants to the endangered nature of the architectural modernist examples in South Asia. The works of the first generation of post-independent Indian architects like Charles Correa, B.V Doshi, A.P Kanvinde, Raj Rewal, and C. P Kukreja may help contextualize Modern architectural historiography. With this, we will explore the Semantic field of 'Architectural Production' and modernism beyond Europe.

122123004 Modern Architecture of South Asia: History, Theory & Critique II

J. Cepl, N.N.

Veranst. SWS: 2

Seminar

Di, wöch., 15:15 - 16:45, Geschwister-Scholl-Str.8A - Seminarraum 002, 05.04.2022 - 05.07.2022

Di, Einzel, 15:15 - 16:45, Geschwister-Scholl-Str.8A - Seminarraum 105, 07.06.2022 - 07.06.2022

Di, Einzel, 15:15 - 16:45, Marienstraße 9 - Seminarraum 203, 05.07.2022 - 05.07.2022

Beschreibung

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B.V Doshi, A.P Kanvinde, Raj Rewal, and C. P Kukreja may help contextualize Modern architectural historiography. With this, we will explore the Semantic field of 'Architectural Production' and modernism beyond Europe.