

Information Architecture



Mondays 14:00 – 18:00
063-1357-13 G | 4 ECTS*

New Methods in Urban Analysis and Simulation

A solid knowledge of computational methods is an increasingly important key competence for future architects or urban planners. In this course you will learn how to analyze and generate spatial configurations with advanced computational methods.

In a series of theory lectures we explore how designing and planning of cities could become evidence based by using scientific methods. Various exercises will provide training for your skills in working with state-of-the-art yet office proven design tools (Depthmap, Ecotect, and Rhino/Grasshopper). In an integral project work, you will deepen your knowledge in spatial analysis and simulation methods such as Space Syntax using Depthmap software and environmental analysis with the program Ecotect. In addition you will acquire skills for using analysis methods for generative design processes. Therefore we introduce you into the parametric design software Grasshopper for Rhino 3D.

Based on the methods introduced during the semester, you will learn and understand different effects of planning and design interventions on urban life. At the end of the course you will be able to interpret analysis and simulation results, and to apply correspondent computational methods for your own planning projects.

Where:

Lecture, HIT F22 - Value Lab
Exercise, HIT H12

When:

Mondays 14:00 to 18:00

Supervision:

Dr. Reinhard König
Estefania Tapias
Matthias Standfest

reinhard.koenig@arch.ethz.ch

tapias@arch.ethz.ch

standfest@arch.ethz.ch

17.02.2014	Introduction to the course E1 - Rhino/Grasshopper tutorial
24.02.2014	Generative systems workshop E2 - Generative techniques
03.03.2014	Space syntax I E3 - Convex Map, Axial Map of a small area
10.03.2014	Space syntax II E4 - Depthmap & GIS: Prepare Data -> Import Data -> Analysis methods
17.03.2014	Seminar week (no lecture)
24.03.2014	Space syntax III E5 - Rhino/Grasshopper
31.03.2014	Empirical studies E6 - Collect data (evaluate existing materials)
07.04.2014	Microclimate analysis I E7 - Ecotect Tutorial I. Analysis of a small urban area.
14.04.2014	Microclimate analysis II E8 - Rhino/Grasshopper
05.05.2014	Best practice examples - Guest lecture
12.05.2014	Final consultation
16.05.2014	Final iA critique Combined critique with the other iA courses

* Total 120 h = 4 ECTS

Exercises 25% (documentations)

Presentation 25% (project at the end)

Written documentation 50% (project)

The most recent outline will be found on www.ia.arch.ethz.ch