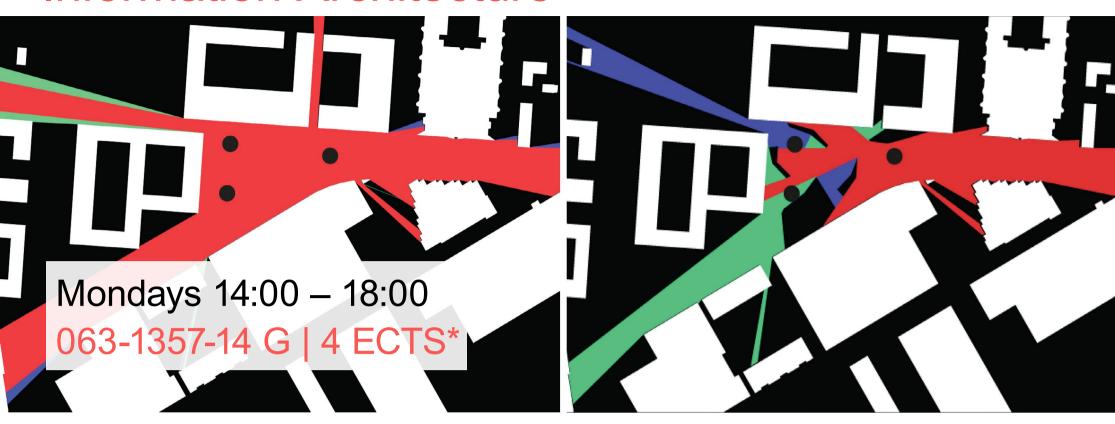
Information Architecture



Digital Urban 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 reinhard.koenig@arch.ethz.ch tapias@arch.ethz.ch

22.09.2014 Introduction to the course

E1 - Rhino/Grasshopper tutorial

29.09.2014 Space syntax I

E2 - Convex Map, Axial Map of a small area

06.10.2014 Space syntax II

E3 - Depthmap & GIS: Prepare Data -> Import Data -> Analysis

methods

13.10.2014 Space syntax III

E4 - Rhino/Grasshopper

20.10.2014 Seminar week (no lecture)

27.10.2014 Microclimate analysis I

E5 - Ecotect Tutorial I. Analysis of a small urban area.

03.11.2014 Microclimate analysis II

E6 - Rhino/Grasshopper

10.11.2014 Generative systems workshop

E7 - Generative techniques

17.11.2014 Empirical studies

E8 - Collect data (evaluate existing materials)

24.11.2014 Best practice examples - Guest lecture

Final consultation

01.12.2014 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

