

DIGITAL URBAN SIMULATION

Mondays 14:00 - 18:00
063-1357-15L | 4 ECTS*

Digital Urban Simulation

In this course students analyze architectural and urban design using current computational methods. Based on these analyses the effects of planning can be simulated and understood. An important focus of this course is the interpretation of the analysis and simulation results and the application of these corresponding methods in early planning phases.

The students learn how the design and planning of cities can be evidence based by using scientific methods. The teaching unit conveys knowledge in state-of-the-art and emerging spatial analysis and simulation methods and equip students with skills in modern software systems. The course consists of lectures, associated exercises, workshops as well as of one integral project work.

Where

HIT H 31.4 (Video wall)

Supervision

Dr. Reinhard König
Estefania Tapias

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

- 22.02.2016 **Introduction to the course**
Rhino/Grasshopper (GH) tutorial
- 29.02.2016 **Space syntax I**
E1 - Convex Map, Axial Map of a small area
- 07.03.2016 **Space syntax II**
E2 - Depthmap & GIS: Prepare data -> Import data
- 14.03.2016 **Seminar week (No lecture)**
- 21.03.2016 **Empirical studies**
E3 - Collect data (evaluate existing materials)
Microclimate analysis I
- 04.04.2016 **Microclimate analysis I**
E4 - GH Ladybug Tutorial I
- 11.04.2016 **Microclimate analysis I**
E5 - GH Ladybug Tutorial II
- 25.04.2016 **Workshop**
E6 - Generative Design
- 02.05.2016 **Final consultation**
- 09.05.2016 **Final iA critique**
Combined critique with the other iA courses (14:00 - 16:00)

*Total 120 h = 4 ECTS
6 Exercises 25% (documentations)
Presentation 25% (project at the end)
Written documentation 50%

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