

ARCH 6502 / Design Scripting

School of Architecture, College of Architecture
Georgia Institute of Technology
Instructor: Yi Lu, PhD, luyi12@gmail.com
Summer 2011, Meeting Days/Time: TBA, 3 Credits



Course Objectives

The course introduces strategies of parametric design/ generative design through the means of scripting. The ability of scripting empowers architects and urban designers with new ideas and potentials. We will understand, manipulate and produce a series of codes (rhinoscripts, grasshopper, VB.net) in a 3D modeler (rhino) and use these codes to generate rule-based geometries and urban patterns. We will also evaluate the environmental performance of the projects in terms of shading, solar radiation, lighting, as well as cognitive and behavioral outcomes through isovist, visibility graph, and axial maps.

Relationship of Course to and Practice/Creative work

The course provides a basis for students and professionals in architecture and urban design fields who want to learn advanced computational design and performance-based design.

Prerequisites

The course opens to both graduate and undergraduate students. Skills of Scripting and Rhino are not required. However, basic knowledge 3D modeling is highly recommended.

Course Procedure and Organization

The course will have three related parts:

1. Precedent analysis: We will be exposed to contemporary digital practice; understand their strategies, concepts and production methods. Cases include projects of Office DA , UN studio, Zaha Hadid, NOX, Herzog de meuron and others.
2. Team design project: Class will operate as team, meeting weekly to develop their projects. It can be either rule-based geometries or urban pattern.
3. Performance evaluation: we will evaluate performance of the projects and modify them accordingly. The evaluation includes a) environmental performance of shading, solar radiation, lighting etc. b) cognitive and behavioral performances through isovist, visibility graph, and axial maps.

Required/Suggested Readings

To be suggested during class: mostly software tutorials and case studies.

Course Requirements

Class will operate as project team.