Course Syllabus

Approaching Convergence

This course introduces spatio-temporal analysis and visualization techniques as the means to integrate urban environmental data in the architectural design process.

We will use the cities of Seoul and New York as base case studies of our investigations. Through a series of lectures and hands on exercises, the students will employ various custom developed toolsets based on platforms such as, Grasshopper, Python scripting, and Geographical Information Systems (GIS). This working methodology, will enable the students to inform their decision making by acquiring an advanced knowledge of data driven parametric and algorithmic design tools.

Exceptional student work will be selected and featured at an exhibition, along with a body of research from prior "Approaching Convergence" courses. The exhibits will be part of the Seoul Architectural Biennale which will take place in September 2017.

Platforms: Rhino/Grasshopper, ArcGis | QGis | Collector for ArcGIS, Python Scripting.

Prerequisites: No prior knowledge of Grasshopper, GIS or algorithmic design is required.

Final Deliverables: Project workflow + video documentation

Schedule:

1. Course overview + Introduction to Grasshopper
2. Data management in Grasshopper + GIS to Grasshopper workflow
3. Vector based urban environmental data analysis in native Grasshopper + Python scripting
4. Raster based urban environmental data analysis in native Grasshopper + Python scripting
5. Spatio-temporal simulation and visualization techniques in native Grasshopper + Plugins
6. Project documentation and online sharing
7. Presentation