How do we measure the city today?

How do we ‘attach’ or connect our design work to place in the year 2014?

OpenStreetMaps.com, Grasshopper, plugins HUMAN and ELK, Arduino, Formub and other media provide new methods to understand the social qualities of cities in ways that are: 1) democratically open; 2) systematic; & 3) custom formulated.

The research method taught in this class will investigate the off-site and on-site use of data using Rhino Grasshopper, plugins and custom scripts. These tools will be integrated with mobile app technology to measure on-site phenomena, codify this qualitative information and create a customize design tool. These tools will not be seen as singular design solutions but rather as design agents that combine human and non-human authorship (Manuel De Landa 2008) (Bruno Latour 2005). Unlike GIS software ESRI ArcGIS and ESRI City Engine, the use of custom Grasshopper scripts allow the simultaneous analysis and synthesis of new custom data for design simulation. Students will design urban interventions at the scale of public space in Portland or Barcelona.

Part I of the course will investigate work at the scale of parametric urbanism in Portland and Barcelona. Students will learn parametric urban design and the ability to create new data using in-situ observation optionally using Arduino microprocessors. Case studies will use parametric urban design projects and files by NBBJ’s Andrew Heumann, Speranza-Viader Urban Design and computing and Carlo Ratti’s MIT SENSEable Cities Lab (UO 2015 lecturer and possible reviewer).

Part II of the course will allow students to develop an analytical approach using data collection in Portland or Eugene to measure social phenomena and other information that affects the health of our communities. Students will work in groups of two to measure in-situ data using Rhino Grasshopper with ELK, HUMAN and other plugins for simulation. Students are encouraged to use this media elective project as a research tool for studio, terminal studio and other course work.

Students projects from this course since 2010 have been published and presented at: ACADIA LA 2014; EU City, Architecture and Information Sustainable Places 2014 Conference in Nice, France; SIM Sustainable Intelligent Manufacturing 2013 in Lisbon and the Journal of Urban Design Special Issue on Pedagogy.

Weeks 8 and 9 of this course will be administered offsite by the instructor with technical assistance by others in both Eugene and in collaboration with Marc Viader, robotics and artificial intelligence, IaaC, Barcelona. The opportunity will exist to extend student projects during the life | city | adaptation Barcelona Urban Design Summer Program 2015.