

Integration of Climate and the Design Process

Funded by BetterBricks and the University of Washington with the support of:
AIA Seattle and the Puget Sound Chapter of ASHRAE

Faculty:

Chris Chatto, Affiliate Lecturer of Architecture, Principal ZGF Architects
Joel Loveland, Professor of Architecture, Director Integrated Design Lab

Time:

6-9PM, Tuesdays, October 4th through December 6th, 2011

Location:

UW Integrated Design Lab | Puget Sound
100 Northlake NE, Suite 100, Seattle

Class Overview:

This course will focus on the practice of climate analysis for the purposes of designing more sustainable buildings and cities that respond to local site and weather conditions to reduce their use of energy use while optimizing occupant comfort.

We will define what is meant by climate, examine its constituent variables, identify sources of data, and discover and evaluate identify tools and techniques to display, analyze, and interpret these conditions in a useful way. The interpretation of local climate conditions will specifically focus on graphic tools and techniques to understand key climate variables. These techniques will include the use of free and commercially available software packages, but importantly will include the use of manual digital techniques such as Excel or other data management programs that allow the user the greatest flexibility in interpreting results.

While much of the class will focus on the analysis of climatic data specific to individual building projects, the course will also begin to examine issues beyond the limits of the building envelope: microclimatic interactions between buildings, their landscape settings, and the local site specific weather conditions; and the role that changing climate conditions might play for the future of a more sustainable architecture.

Learning Objectives:

- Understand the various elements of climate, and how they are related to human comfort, health, and safety, and building design.
- Identify sources of climate data, and understand how they may be used
- Learn programs and techniques to analyze climate data
- Understand how the success of various sustainable building strategies (daylighting, natural ventilation, orientation and solar shading) are related to climatic variables

Class Sessions:

- 1 Introduction: Building Type Defined: The Use of Target Finder Energy Benchmarking
- 2 Climate Defined: Elements of Climate, Data Mining
- 3 Precipitation
- 4 Temperature
- 5 Humidity
- 6 Radiation
- 7 Wind
- 8 Light
- 9 Changing Climate? Climate Change and Architecture
- 10 Regional Climate Presentations

