OBJECTIVES
— To explore light and shadow with physical and digital media
— To study how views, lighting, & materials affect spatial perception
— To understand how design media shapes the creative process
— To cultivate an online learning community

FOCUS
What design processes help us understand form and space in light? We will create digital images to examine how natural and electrical lighting can reveal aspects of a space and be manipulated to alter spatial perceptions. We will model, transform and combine room components, looking at how they can affect the interior daylighting and thermal heat gain. By digitally cutting, carving and assembling physical prototypes, we can study how surfaces, materials and apertures can work with changing light. We can use photos and video to capture how material properties such as color, translucence and reflectance create serendipitous reflection, diffraction and refraction effects.

GOAL: deeper understanding of representation methods for design development and presentation

FORMAT
The class will consist short talks, hands-on tutorials, design exercises with blog entries and critiques. Through structured exercises, students will experiment with a range of techniques for visualizing and presenting design ideas. To complement hands-on exercises, we will examine and discuss how students and inspirational designers develop their projects. Each student will explain how a favorite design hero works in brief presentations throughout the term. We will use online systems to document, reflect on and share the work.

ACTIVITIES
— Scheme with sketching and sketch modeling
— Generate and vary forms with digital modeling
— Predict light, shadow and material effects with digital rendering
— Create physical prototypes with digital fabrication
— Research design process and share ideas with Web2.0 systems

TOOLS
Strongly supported: Rhinoceros modeling software for freeform modeling with SRP Player or RhinoCAM for carving, and Photoshop and Illustrator for presentation. Learning resources will be provided for Revit building information modeling, Ecotect light and heat analysis, Grasshopper parametric modeling. Students will keep a blog (i.e. Weebly, Google Sites, WordpressMU) and use social bookmarking.

INSPIRATION:
How do our heroes make it happen?

LIGHT & COLOR:
How can light, shadow and color shape our perception of form?

COLLABORATION:
How can designers work together productively?

HIGH-TECH
HIGH-TOUCH
How can digital processes be complemented by physical ones?