ARCH 498-H PHYSICALLY BASED RENDERING

(3 credit hours)
Spring 2006, The University of Washington, Department of Architecture
Tuesday – Thursday, 10:30 – 11:50 @ Gould 007
Instructor: Mehlika Inanici inanici@u.washington.edu

Description
Physically based rendering tools use computer models to simulate the complex physical processes that occur during the light transport and reflection/refraction/transmission to generate digital images that mimic the physical world and predict the final appearance of a design. The course provides the opportunity for guided explorations and discussions of the technical features of physically based rendering tools and algorithms within the domain of the architectural visualization. Lectures and hands-on exercises include topics such as:

- Graphics rendering pipeline
- Definition and modeling of light sources (daylight, sunlight, electric light)
- Material appearances and light reflection / refraction / transmission
- Rendering algorithms (Global illumination)
- Image formats (High Dynamic Range Imaging)
- Image based rendering techniques
- Perceptually based rendering techniques

Prerequisite: Prior experience with a 3D modeling and rendering tool.