**instructor**
Ihab Elzeyadi, Ph.D., FEIA
Associate Professor of Architecture

227 Lawrence Hall
ph. 346-3670
fax 346-3626
ihab@uoregon.edu

**meetings:**
M & W, 12:00-5:30 PM
F: Scheduled Field Trips & Presentations to Clients

**crn:**
484: TBD
584: TBD

**readings:**
Blackboard

**credits:**
6cr.

**prerequisites:**
Arch 4/584 eligible students

**course objectives:**
The studio will explore the application of the GCT™ award winning guidelines for greening and energy retrofits of school prototypes for Portland Public Schools (PPS), OR. We will investigate different school’s retrofit green strategies in the PPS school district on the school level for the first half of the term. In the second half of the term we will focus on the design development and green systems integration for one space, "The Classroom" as the quintessential space for learning. The design development investigations will not only cover systems but spatial, and curricular ideas and learning visions for the integration of green classrooms and learning in a multi-disciplinary perspective.

Green Classroom Toolbox: Portland’s 21st Century Schools Prototypes

Investigating the application of evidence-based design guidelines for preparing Portland’s public schools for the 2030 challenge.

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Existing classrooms and educational spaces are dangerous! They approximately consume 30% of the nation’s electricity, generate 35% of our waste, use 8% of water resources and are responsible for 20% of greenhouse gas (GHG) and carbon dioxide emissions. While the new construction sector of the building industry has benefited from green products and building strategies to produce high-performance sustainable schools, existing classrooms have been largely ignored. This is a problem of huge proportions because the amount of occupied classroom space in the US exceeds 20 billion square feet. These existing educational spaces generally are a product of the past 30-50 years, are not energy conscious, and many of the new building products and sustainable strategies are not applicable to existing classroom retrofits. This studio builds on the Green Classroom Toolbox™ (GCT) and school retrofit guidelines developed for the AIA. The studio will explore the application of the GCT™ award winning guidelines for greening and energy retrofits of school prototypes for Portland Public Schools (PPS), OR. We will investigate different classroom/school typologies in the PPS school district (finger, double-loaded, clustered, multi-story box, and portable) and research green strategies for retrofitting them using the developed guidelines from the GCT™, which includes energy modeling, children’s health and learning metrics, teacher’s well-being, as well as green education curricular. We will develop re-designs proposals for the different school typologies in the PPS district. These will potentially act as exemplar cases to be adopted by the school district. This is a real project involving presentations to clients and a great experience of interaction between architecture, health, and public policy.

“Il n’y a pas de détail dans la construction.”
August Perret

Charlemagne Challenge Competition Entry- (c) Innovative Environments 2009, Ihab Elzeyadi, Principal