ARCH 661 Teaching Technical Subjects in Architecture
CRN: 20151 (1 or 2 credits) Saturday, February 4, 2012 9:00 am - 5:00pm (279 LA)
Technical Teaching Information Reception, Mon February 6, 2012 5:15P (Hearth)

Instructors
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Description
This course provides a forum for those interested in pursuing the Technical Teaching Certificate, a teaching career in design and technology, and/or gaining preparation for Graduate Teaching Fellowships (GTFs). We will discuss pedagogical issues related to teaching technical subjects. Students will develop a brief presentation for the class which will be peer-critiqued. Those who wish to take the course for 2 credits will conduct a teaching critique and written response of teaching in a technical course.

Course Objectives
• familiarize those interested in teaching technical subjects and prospective GTFs in using materials from technology courses (ECS, structures, building construction
• develop innovative hands-on, experiential exercises for technical subject areas
• provide a forum for discussion about teaching technical subjects and general handling of teaching issues related teaching and learning

Course Requirements
• Discussion: issues related to teaching as a career
• Presentation: .ppt or demonstration (or other teaching technique) of a concept or principle that will increase understanding of the material and connection to design
• Facilitate: discussion of issues related to teaching technical topics and handling discussion sections

Course Evaluation
Teaching Moment 50%
Discussion & Facilitation 50%
Graded or Pass/No Pass evaluation options

Required Text:
Ed Allen, Notes to Myself, self-published, 2002. provided prior to class

Recommended Readings
• Esquith, Rafe, Teach Like Your Hair is on Fire, Penguin, 2007

Prerequisites
ECS, structures or materials sequence of required courses or concurrent enrollment

Satisfies a requirement for the Technical Teaching Certificate Program
may be repeated for credits under same course number
9:00–9:30 Introduction and Best Teachers (how I got my first job)
9:30–10:00 Kolb Learning Style Inventory and Teaching Resources
10:00–10:45 Roundtables Discussions
10:45 Introduction to teaching moments
11:00–2:00 Students research, develop presentations, demonstrations (Working Lunch (provided))
2:15-4:45 Presentations and critiques (break at midpoint)
4:45 Wrap up and next steps

Discussion Topics: (~1 hour) Lead informal discussion on a suggested discussion topic above or one of your choice. Outline several directions to lead the discussion and summarize with a list of outcomes. Report back to the group.

Grading Fairly and Consistently
Drawing the Line, setting boundaries
The First Day
Teaching Yours Peers
Reducing workload, maintaining standards
Handholding or Inspiring
Plagiarism
Persuasive presence

Concept Presentations: (3 minutes) Research and create a presentation to describe a concept, principle, or phenomenon, using a demonstration, slides, or some teaching technique that will increase understanding of the material and connection to design. Concept examples may be from ECS, Materials and Methods, or Structural Technology and must be related to the design process.

ECS Topics
degree day
dewpoint
balance point
thermal comfort
Psychrometric chart
daylight factor vs. Transmittance
SC vs. SHGC
net zero energy
plug loads
vapor retarders
temperature Gradient
transmission Loss
cool towers
heating degree day
balance point
glare
lighting power density
noise criteria
reverberation time
thermal bridging

Materials & Methods
aluminum extrusion
rolling wide-flange shapes
Portland cement manufacturing
gypsum calcination and rehydration
converting logs to lumber
plywood vs. OSB
framing an opening in wood stud wall
brick bonds
life cycle analysis

Structures
finding beam reactions
stress/strain curve
Parallelogram Law
components of a force
stress
strain
bending
moment