

## Educational Technology 4660 and Educational Technology Foundations 6460

This is a jointly taught undergraduate and graduate course.

The primary goal of this class is for students to learn about fundamental theories that impact the design of educational technology. Secondary goals are to improve upon students' ability to read and write critically, to practice their design skills and to learn some concepts regarding equity and education.

### Focus of the Course

In this class, we will use a different topic area each year as a starting point for developing educational technology. Previous years topics include library technology, smart cities, computer science education. We will review theories of learning and explore how those theories can lead you to design technology learning experiences about *the topic*. A variety of different approaches to educational technology will be presented.

### Teams

Students work in teams of 4 – 5 and sit with their team in class. All teams are selected by me. I chose teams based upon a survey given the first week of class. The survey asks about work styles, communication styles, and technology they would prefer to use as well as topic interest for the design project.

### Assignments

Students complete the following readings, or similar, and then write a page of critique for each reading. Class discussions, design activities and work time take place each class, based upon this I grade class participation. A needs assessment paper, to identify an audience with a learning need, is due around mid-term and a final design paper and prototype is due at the end of the semester. The design project should directly build upon the needs assessment.

Readings
How People Learn chapter 1 & 2
Learner Centered Design, Soloway
Community Research, Stocker / Design Based Research, Barab
Cognition and Learning, Greeno, Collins and Resnick
Saving Face, DiSalvo
PBL/PbL - Doing with Understanding, Barron
Case-based Learning Aids, Kolodner, and Cognitive Apprenticeship, Collins
Constructionism: Pianos Not Stereos, Bruckman/ Mindstorms Intro, Papert

Situated Learning, Lave (chapter 1&3)
Presentation of Needs Assessments
MOOCs, TBD
Embodied Learning, TBD
Maker based learning, Stitching Circuits, Peppler
Collective Cognitive Responsibility, Scardimilia
Thick Authenticity, Schaffer
Assessment, Means
Student Presentations on Design
In class Film: Waiting for Superman
Critique of Waiting for Superman, Reading
Final papers and design prototypes due