Educator’s multimedia studio

Matthew X. Curinga

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**Educational Technology 0850-620, Spring 2020**

**Keywords:** studio pedagogy, interaction design, multimedia learning, digital studio, ed tech capstone, instructional design, smart cities, IoT

**Description:** How can digital media best support learning? Working on semester-long projects, students learn about interaction and instructional design. In this hands-on studio, develop and extend skills in multimedia authoring: digital images/audio/video, and interactive web development. Apply these skills to create a original educational resources.

**Class meetings:**

* Section 001: Harvey 104, Mondays 4:30-6:20 (blended, see schedule)
* Section 002: *fully online*

**Instructor:** [Matthew X. Curinga](https://matt.curinga.com), [mcuringa@adelphi.edu](mailto:mcuringa@adelphi.edu)

**Office hours:**

* Monday 1-3pm, Alumnae Hall Room 226A (Garden City campus)
* Thursday 3:30-5:30pm, online
* *office hours by appointment*

## Spring 2020 Studio: Smart Cities

Each semester the multimedia studio features a different challenge, dealing with an important, global topic. Students will be asked to work on a semester long multimedia project that teaches some aspect of this challenge.

The Spring 2020 Studio theme is **smart cities**. A smart city wants to use embedded digital technologies and data flows improve the lives of the people in the city. Critics caution that smart cities might offer little advantage to the people, while entrenching unequal power structures and exacerbating existing problems stemming from inequality and poverty. The projects in this studio should help us – and anyone – to better understand the potential benefits and pitfalls of smart cities. Each participant in the studio will become expert in a particular aspect of smart cities (e.g. transportation, crime, education, health, tech) and design their multimedia project around that topic. Taken together, our studio projects should present our vision of what a smart city should look like.

## Goals

This course is designed to challenge students to develop their abilities as instructional designers and as authors and producers of digital media for learning. Specifically, they should learn to:

* design an effective digital learning environment that is intuitive to use and follows principles of Universal Design for Learning
* develop in-depth skill in one area of digital production: video editing, graphic design, game design, computer programming, web design, etc.
* understand key concepts of instructional design, including meeting the needs of the target audience, assessing learning outcomes, and following sound and ethical pedagogical principles
* think creatively about far-reaching challenges in teaching and learning

At the end of the studio, every student will have a high quality, published multimedia artifact that will be part of their portfolio.

## Required texts

Green, B. (2019). *The smart enough city: Putting technology in Its place to reclaim our urban future*. The MIT Press. [free online](https://smartenoughcity.mitpress.mit.edu/)

Clark, R. C., & Mayer, R. E. (2016). *E-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning*. John Wiley & Sons, Incorporated. [adelphi library](https://ebookcentral.proquest.com/lib/adelphi/detail.action?docID=4418752)

## Class meetings

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Dates | Topic | Due | Meeting |
| 1 | Jan 27 | Intro; Dual Coding / Cognitive Load | - | Online |
| 2 | Feb 3 | Smart Enough Cities, ch 1-4 | - | Harvey 104 |
| 3 | Feb 10 | Multimedia Principle & Contiguity | Multimedia 1 | Online |
| 4 | Feb 17 | Smart Enough Cities, ch 5-7 | - | Harvey 104 |
| 5 | Feb 24 | Modality & Redundancy | Multimedia 2 | Online |
| 6 | Mar 2 | Briefings | Briefing | Harvey 104 |
| 7 | Mar 9 | Coherence, Personalization, Segmenting | Multimedia 3 | Online |
| 8 | Mar 16 | Pitches | Pitch Harvey | Harvey 104 |
| 9 | Mar 23 | Workshops | Wk 1 & 2 | Online |
| 10 | Mar 30 | Workshops | Wk 3 & 4 | Harvey 104 |
| 11 | Apr 6 | Workshops | Wk 5 & 6 | Online |
| 12 | Apr 13 | Workshops | Critique | Harvey 104 |
| - | Apr 20 | Spring Break | - | - |
| 13 | Apr 27 | Studio Session | - | Harvey 104 |
| 14 | May 4 | Studio Session | - | Online |
| 15 | May 11 | User Testing | - | Harvey 104 |
| 16 | May 18 | *Final due* | Final Project | Online |

## Assignments

### Grading

|  |  |
| --- | --- |
| Assignment due | % of final grade |
| participation | 10% |
| briefing | 10% |
| workshop | 10% |
| multimedia on multimedia | 10% |
| pitch | 10% |
| mid-term critique | 20% |
| final project | 30% |

### Participation

Everyone is expected to participate fully in class. This means meeting deadlines for online posts and, coming to class sessions prepared by having read the readings. During “studio” work sessions, you will be expected to post an update of your progress with screenshots.

### Briefings

The “briefing” session will help us develop our domain knowledge of smart cities. You will choose a specific topic of your choice related to smart cities and then create a 3-minute briefing report – a narrated slide show on your topic. Your report should represent your best understanding of multimedia learning. The last slide should be the bibliography used to create your briefing. You should have at least 3 sources, one of them being an academic source. The specific topic of your briefing will probably relate to the aspect of smart cities that you will highlight in your multimedia project.

### Multimedia on multimedia

Working with a partner, you will create a multimedia slideshow that demonstrates the key multimedia cognition concepts covered in *E-Learning and the Science of Instruction*. The book is available online from the Adelphi Library. The total presentation must be between 10-15 minutes long. You are only required to read the chapter for the week you are presenting, but everyone is encouraged to read the chapters. You should supplement your presentation with outside readings and examples as necessary. You should actively work to implement the multimedia principles you are discussing in the design of your presentation.

* **multimedia 1:** chapters 4 & 5
* **multimedia 2:** chapters 6 & 7
* **multimedia 3:** chapters 8, 9, & 10

### Workshops

Choose a multimedia authoring tool that you know well or want to become expert in. Prepare an hour-long workshop that you will lead for your peers on using this tool. If it is a large or complex tool (GIMP, Tableau), then choose a specific feature or technique to cover.

Your workshop should:

1. Begin with a general discussion of the types of multimedia produced:
   * show specific examples
   * discuss how they match our understanding of multimedia principles
2. Demonstrate the key techniques of the tool. In order to show the tool, you might need to prepare some work in several different stages, in the interest of time.
3. Design an activity for the workshop participants to complete. The activity should account for the fact that some students will not know anything about your tool/methods and others will be as expert as you are. Accordingly, you might let the participants choose from several topics or challenges, or you can design a more open ended activity with a low floor and high ceiling. If we need to install any software prior to the workshop, you must post this before class.
4. Wrap up the workshop by re-stating the main principles and highlighting examples of the work of the participants.

If you are doing an online workshop, in Step 1, you will post a multimedia slideshow. In Step 2, you will present either a screencast or live action video of the demonstration. In step 3, you will support the students while they work on the activity over Slack and other channels (email, shared docs, etc). Your final comments (step 4) can be posted in writing, audio, or video.

## Multimedia project

The culminating work for this class is your *multimedia project*. Everyone will work on their own individual project. They will produce a multimedia work that demonstrates their skills as a designer and producer of multimedia, their knowledge of the studio topic, and their understanding of the learning sciences of multimedia.

You should begin thinking about your project during the first week of class. Consider:

* what types of multimedia do you find the most interesting and engaging?
* what are your strengths?
* what would you like to learn more about?
* what skills and demos would you like to highlight as a professional educational technologist?

Past Studio projects include:

* instructional videos
* documentary videos
* animations
* data visualizations
* infographics
* (analog) learning games
* video games
* captivate courses
* self-paced online courses
* simulations
* interactive websites
* mobile/location based learning systems
* interactive stories
* multimedia textbooks
* map/spatial multimedia

### Pitch

You will formally pitch your idea for your your final project. The purpose of the pitch is to propose your project in a way that makes it sound exciting, worthwhile, and feasible. You want to tell a good story about what you plan to develop. You should also have some sketches, mockups, sample art, etc. that may be required to make your point.

Plan for a 5 minute presentation.

### Midpoint critique

You will formally present your work to date to get feedback from the instructor and your peers. You should have a solid plan for completing the project.

**Midpoint and Final Evaluation Criteria** *Refer to these criteria for the evaluation of your multimedia project.*

#### Originality & innovation

Does the project take a novel approach to teaching with digital media? Does it combine existing practices in new ways, for a new effect? Does it address an important topic, or hard to teach concept that is relevant to the topic of the studio? In other words, how *important* is the learning goal for the project?

Students will lose points in originality for verbatim translating of existing learning solutions to the new problem space.

#### Design

The design of the project encompasses the information, interaction, and visual design. Points to consider when evaluating the design:

* is the navigation consistent, logical, and easily understood?
* does the graphic design engage users?
* does the look and feel support the learning goals of the project?
* does the user interface take advantage of existing conventions, UI widgets, and user patterns?
* are there clear paths through the system to accomplish user goals?
* are system messages and instructions consistent and clear?
* does the overall design exhibit a level of professionalism and polish that supports trust by the user?
* is the design accessible?
  + does it support the widest possible range of computer systems (including OS, web browser, screen size/mobile, processor speed, internet connection quality)
  + can it be accessed by users with disabilities, where appropriate?

#### Technique

The project’s technique reflects the proficiency of the producer with the tools of the digital studio. All aspects of the project should be well tested for smooth operation. Users should not easily “break” the system. The specifics of development depend on the media. So, each of the various skills required for the course will be evaluated based on the practice of expert practitioners.

* is video composed and edited like an expert video?
* does software meet the speed and reliability that an expert would expect?
* etc.

#### Learning science

At the end, this studio challenge is about learning. Points in this category are awarded for exhibiting a thorough understanding of how people learn with digital artifacts. Successful projects will account for the cognitive, social, pragmatic, ethical, and aesthetic implications of their design, as it impacts learning.