Mobile learning

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Table of Contents

**Educational Technology 0858-612, Fall 2019**

**Course description.** Most of the world connects to the Internet from mobile phones, most of the time. Android tablets and iPads are filtering into schools — and the hands of children. Augmented reality and location based software offer new opportunities for context aware learning. Students carry significant computing power in their pockets. This course considers how mobile computing forces us to reconsider the time and place of learning.

**Keywords:** mlearning, mobile learning, android, ipad, tablet computing, AR, augmented reality

 1951, Dick Tracy’s wearable computer

## Goals & objectives

Students taking this course will develop an understanding of the ways that mobile technologies can be used for teaching and learning. They will also consider the impact of mobile computing on the field of education as a whole.

Students will:

* understand basic underlying mobile technologies, and their educational implications
  + network types and capacity
  + hardware speed, capabilities, and energy requirements
  + screen and display technologies
  + software development platform, including Web, SMS, and local “Apps”
  + GIS and location services, and how they can be used to augment learning
  + augmented reality technologies
* understand the specific strengths and constraints of mobile interactivity & design
* implement best-practices of teaching with wireless mobile technology
* reflect on how mobile computing challenges the traditional time and places of learning

## Weekly topics

*Readings, discussion forums, and other assignments are available on the course website under the weekly topic.*

|  |  |  |  |
| --- | --- | --- | --- |
| Session | Date | Topic | Format |
| 1 | Aug 29 | Going Mobile | classroom |
| 2 | Sep 05 | Mobile First | online |
| 3 | Sep 12 | Tech reports | classroom |
| 4 | Sep 19 | Mobile computing and society | online |
| 5 | Sep 26 | Mobile cognition | classroom |
| 6 | Oct 03 | Situated cognition & embodiment | online |
| 7 | Oct 10 | 1:1 Computing | classroom |
| 8 | Oct 17 | Reading screens | online |
| 9 | Oct 24 | Workshop: App Inventor | classroom |
| 10 | Oct 31 | Augmented Reality | online |
| 11 | Nov 07 | Workshop: ARIS | classroom |
| 12 | Nov 14 | Internet of Things (IoT) | online |
| 13 | Nov 21 | Mobile Instr Design (Triangle Fire) | classroom |
| - | Nov 28 | Thanksgiving | *no class* |
| 14 | Dec 05 | Final project drafts | online |
| 15 | Dec 12 | Final project presentation | classroom |

## Assignments & grading

|  |  |  |
| --- | --- | --- |
| Assignment | Pct | Due |
| Session leader | 20% | ongoing |
| Reading responses | 20% | ongoing |
| Tech report | 20% | Sep 12 |
| App Review | 20% | Oct 24 |
| Draft Final Project | - | Dec 5 |
| Final Project | 20% | Dec 12 |

### Session leader

You or you and a partner will be responsible for leading a class session this semester. If it is an online session, you will create an audio podcast and deliver it as an .mp3 audio file on the Thursday that your session starts (probably 10-20 minutes in length). In the podcast you should reflect on the readings and offer some guiding questions that you think are important. You will not submit your own reading response this week, but will play the role of moderator in our online discussion. You will ask follow up questions to posts and comments, connect students who address the same subjects but may not have seen each other, post to keep discussions on track (and civil if needed), and prompt/nudge your peers who seem to be falling behind.

If you are leading an in-person class, you will essentially be the seminar or workshop leader for that week. You should be very familiar with the readings and come to class with interesting questions and/or quotations from the texts that you believe will lead to fruitful discussions. If you are leading a workshop, you will work with the instructor to design activities for the rest of the class and you will present the tools and facilitate the activities.

### Reading Responses

For most online weeks you will be asked to post a *reading response* on Moodle. This is the main online interaction for the online portion of this course. Your reading response should be approximately 500 words, but occasionally may call for more or less.

A good reading response:

1. specifically refers to the readings and other activities due that week: you will usually want to quote the texts and refer to specific passages,
2. your post will start a new thread in our discussion forum, it should have its own unique (and clever) title,
3. is not a *summary*, you should have a point of view and express your own synthesis, understanding, and opinion about the topic under discussion,
4. sometimes this will relate to courses you are taking now, your work, or your personal life,
5. sometimes this will relate to other things you have read or studied (this is okay, just give us a little bit of reference and a way to find more information),
6. is not a formal, academic post (you don’t need APA style references), but you should include links, titles, authors names, etc for outside readings/videos/works,
7. *is* intended for this course and your classmates so it should be **professional** in substance and tone, and
8. **is posted before the end of day on Tuesday (e.g. midnight), the week it’s due**

The general workflow for these online weeks follows:

1. (Thurs-Sun) Do course readings (including podcast)
2. (Sun-Tues) Write & post a reading response
3. (Tues - Thurs) Read all of the responses and post comments/discuss

In addition to your own response, you should check the discussion board daily. You are required to comment on at least two of your peer’s responses each week and you should respond to people who engage with you.

### Tech Report

Working in groups, students will present a “Tech Report” on an aspect of mobile technology. Groups will prepare 7-8 slides for a slidecast which they will post on their blog (teammates will link to/cross-post it). They will also post an annotated list of resources (e.g. websites, press, and scholarly articles) related to their topic. Annotations should only be a few sentences.

Example topics:

* wireless networks (wimax, mesh networks, p2p networks, 5G/6G)
* near field communications (NFC)
* device hardware (chips screens, etc)
* mobile payments (Google Wallet, Apple Pay, etc)
* GIS/GPS & location
* beacons, RFID, etc
* iOS and Android Platforms
* mobile media (video, audio, animations, web/html/css, etc.)
* speech recognition, text-to-speech, voice interfaces
* facial recognition & computer vision
* AR technologies (Goggles, biometrics, development platforms, etc)
* IoT (microboards, dev platforms, uses, sensors, etc)
* mobile computing and assistive technology
* wireless/mobile security

### mLearning Topic Report

For this project you will write a report about how mobile technologies are used in a specific domain of learning. Broadly, your report should focus on a subject area (e.g. mathematics, language learning, teacher professional development) or target group/setting (e.g. students with disabilities, higher education, museum education). Your report will include a written portion and then a visual presentation video where you demonstrate and discuss apps/mobile software related to your topic.

The written report should:

* describe the domain your researching, including an understanding of best pedagogical practices in general (without tech or mobile tech)
* include a literature review of relevant research in mobile learning (if you can’t find at least 3 good academic articles, you should choose a different topic)
* the lit review provides both a summary and a synthesis of the research
* describe the software that you will demo and discuss in your video (links to developer, brief summary, etc)

Your video should be uploaded to YouTube and posted on Moodle as a single video, no more than 6 minutes in length where you demonstrate and discuss mobile websites and apps related to your topic. You will need to capture a mobile screencast in order to do this (see tools for your platform(s)), and will have to edit them into a single video. You can narrate the screencast as you go, or you can add it later.

### Final project

We have a special opportunity this semester to engage in a service learning project to design mobile learning experiences for a new monument being developed in Manhattan to commemorate the [Triangle Shirtwaist Factory fire](https://en.wikipedia.org/wiki/Triangle_Shirtwaist_Factory_fire). The “Triangle Fire” was a terrible tragedy in New York City where 146 garment workers (mostly immigrant women and girls) were killed. It was also an historic turning points for workers rights and led to many victories for the working class in the United States.

For our final project, you will work individually or with a partner to design a mobile learning experience related to the monument, the event, and the historic location in Greenwich Village. You can specific the target audience for your work. Consider questions such as: Will it be for a school trip? What age? Is it informal learning for tourists? For families? Adults? Will you offer more in-depth learning for older students and amateur scholars?

You will deliver a design document that specifically describes your learning goals, target audience, necessary technology, and includes all of the materials needed for it. It should also specify necessary technologies and include prototypes and user stories (scenarios) of how it will be used. If it requires new technology or mobile websites, you must provide wireframes and paper prototypes.

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