
CLASS DETAILS

IML 404: Tactical Media (4.0 units)
Instructors: John Carpenter <johnbcarpenter@gmail.com>
Pete Hawkes <petehawkes@gmail.com>
Session 001: Tuesday 6:00-8:50pm
Location: SCIL105
Section: 37436R
Recommended preparation: IML 102 or IML 104 or IML 201
Office Hours: By Appointment

COURSE DESCRIPTION

This course is an examination of existing and emergent media technologies, focusing on creative and critical tactics for empowering you to explore the full potentials of software and hardware in your work. Instruction will draw heavily from both our careers as artists, and our roles as designers at Oblong Industries (http://www.oblong.com). We will explore ideas for how humans will interact with technology in the future—from the perspective of an existing business designed to imagine workspaces of the near future—and the focus will be on opening up and reshaping the way you approach, think about, understand, and work with technology.

The course will be taught as a workshop with classes focussed on three different mediums of discourse and expression: Processing, Arduino, and g-speak (Oblong's spatial operating environment). We will also explore how other artists, designers, and engineers use software, sensors, light, pixels, space, gesture, and architecture in their work... and we'll invite several guests into the class for lectures and critiques.

During our work with g-speak, students will be invited (and required) to attend classes at the Oblong warehouse (downtown in the Arts District). There we will consider an array of new tools and topics for interaction design—including how to work with gesture and/or arduino across a 40-foot media wall. Final projects will be presented at a reception at the Oblong warehouse.

REQUIRED COURSE MATERIALS
Arduino Starter Kit ($35): amazon link (but let's verify w pete before we order)
The department has a few things, but this is a solid starter. There are many Arduino starter kits out there. This is the cheapest, safest option. Others might cause some serious headaches. Please check with us if you plan to use a different kit. If cost is an issue; we can help gather parts to keep you rolling.

A note on software: You won't be required to purchase any software. Most of the software we're going to be working with runs on window and linux; however, if you have access to a Mac for class work, it will probably make everyone's life easier.

TEXTS (periodic reference)

JCR Licklider. *Man Computer Symbiosis*. 1960
Roy Ascott. *The Construction of Change*. 1964
Nicholas Negroponte. *Soft Architecture Machines*. 1975
Myron Krueger. *Responsive Environments*. 1977
Heidegger. *The Question Concerning Technology*. 1977
Richard A. Bolt. *Put That There*. 1980
Foucault. *The Subject and Power*. 1982
Donna Haray. *A Cyborg Manifesto*. 1985
John Underkoffler. *The I/O Bulb and the Luminous Room*. 1991
Ian Bogost. *Purposes of Persuasion*. 2007

RESOURCES (recommended, not required)

Getting Started with Processing: A Hands-On Introduction to Making Interactive Graphics. 2015
Getting Started with Arduino: The Open Source Electronics Prototyping Platform. 2014

GRADING

You will receive grade feedback in week 08 or 09. Grades will be determined as follows:

processing project	30%
cardboard prototype + blog	20% (10% + 10%)
arduino project	30%
g-speak project	20%
	100%

Late projects are up to -10% off the project grade (aka your final grade).

ATTENDANCE POLICY

Each project builds on knowledge of all the classes before it, so it's important that you're always in class. When we start to cover new topics or principals, the discussion will be built on previous work. Two unexcused absences will lower your final grade by 5%. After 2 unexcused absences, each additional unexcused absence will lower your final grade by another 5%.

Each class you're tardy for or leave early for (0 to 15 minutes) will be -.5% off class participation grade. >30 minutes late = 1 unexcused absence. Excused absence = family emergency, you're sick with a doctor's note, or you're on a sports team and at an away game. If the cause of your absence meets one of these criteria, please send us an email ASAP (but at maximum, within a week of the missed day of class) and we'll figure out a way to make up the missed work. If you're on a sports team, please provide us with the days you'll be missing at the start of the semester.

CELL PHONE AND FOOD POLICY

Cell phones must be silent in the lab space. No talking on the phone in the classroom. Don't pay attention your phone if we're lecturing or talking to you. Food and drink (aside from covered water bottles) are not permitted in the lab space. Violations of these policies will affect your final grade by -1% for every occurrence.

STATEMENT FOR STUDENTS WITH DISABILITIES

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to one of us as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.-5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

STATEMENT ON ACADEMIC INTEGRITY

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook can be downloaded from http://studentaffairs.usc.edu/scampus/, and contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: http://www.usc.edu/dept/publications/SCAMPUS/gov/. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: http://www.usc.edu/student-affairs/SJACS/.

Of particular relevance to this course: We'll be using libraries and looking at other people's code for this course -- both of which are fairly standard practice for programmers. however, PLEASE ALWAYS REMEMBER TO REFERENCE (CITE) any code that you adapt or use in your own projects. We'll give examples in class on how to do this appropriately.

SCHEDULE

```
class Processing () {
  Week 01. 08/22/2017 <teacher intros // processing review>
    - (intro to) processing recap: classes + arrays
    - flocking / agent-based systems

  Week 02. 08/29/2017 <processing: kinect>
    - rgb camera, filters, openCV
    - optical flow + agent-based systems (it's for the boids)

  Week 03. 09/05/2017 <processing>
    - kinect and point clouds
    - discuss processing project proposals / working session

  Week 04. 09/12/2017 <working session>
    - working in class, project discussions

  Week 05. 09/19/2017 <processing: project* reviews >
    - in-class critique (with guest reviewer)
    - talk: electronics for art and design <arduino intro>
}


class Prototype () {
  Week 06. 09/26/2017 <tactical media discussions / readings>
    - cardboard prototype introduction

  Week 07. 10/03/2017 <cardboard prototype project* reviews>
    - in-class crit + discussion
    - blog post documentation
}
```

```
class Arduino () {
  Week 08. 10/10/2017 <arduino intro>
    - microcontrollers / leds / knobs / pots
    - blog posts* due

  Week 09. 10/17/2017 <arduino>
    - sensors / actuators
    - photocells / servos

  Week 10. 10/24/2017 <halloween: arduino>
    - buttons / piezo / debounce
    - proposals discussion / working session

  Week 11. 10/31/2017 <halloween: arduino>
    - working session

  Week 12. 11/07/2017 <arduino project* reviews>
    - in-class critique (with guest reviewer)
    - required readings assignment
}

class g-speak () {
  Week 13. 11/14/2017 <g-speak: intro>
    - guest lecture @the warehouse
    - required readings discussion
    - g-speak project requirements

  Week 14. 11/21/2017 <g-speak>
    - working session @the warehouse

  // Thanksgiving Recess 11/22 - 11/26/2017

  Week 15. 11/28/2017 <g-speak>
    - working session @the warehouse

  // Study Days: 12/02 - 12/05/2017 (no class)

  FINAL EXHIBIT. 12/12/2017 4:30-6:30 p.m. <g-speak project* reviews>
    - @the warehouse
}

* class work due
```