USC School of Cinematic Arts

CLASS DETAILS

IML 288: Critical Thinking and Procedural Media (4.0 units)
Instructor: John Carpenter < johncarp@usc.edu, johnbcarpenter@gmail.com>
TA: Catherine Griffiths <griffitc@usc.edu>
Session 001: Tuesday 4:00-6:50pm
Location: SCIL105
Section: 37415D
Recommended preparation: IML 102 or IML 104 or IML 201
Office Hours: By Appointment

COURSE DESCRIPTION

Critical Thinking and Procedural Media is an introductory computer programming course that explores the use of code to generate digital art and design works. If you're less familiar with programming (or totally new to it), don't worry — this class starts with the basics and builds up to more complex ideas (like object-oriented programming). If you've programmed before, great, we'll take what you know and look at *the potentials of computational media to define new aesthetics, modes of representation and structures of communication*.

Learning Objectives: This course is focused on becoming procedurally literate (being able to think like a creative coder), and is less concerned about learning a specific programming language. That said, due to its accessibility and active community of developers, we'll use Processing to shed light on the theoretical underpinnings of computational media. Participants will gain proficiency with the Processing IDE and will discover wide-ranging possibilities for its expressive application.

We'll gain experience through a series of coding exercises, and draw inspiration from a variety of artistic fields — from drawing, to painting, to sculpture, to gaming, to interactive installations. By the end of the course, I'm hoping you'll think of programming as another expressive medium for your art and design practice.

The course will be taught as a workshop with introductions of topics by the professor and TA, followed by individual conversations and time to work in class. Special thanks to DJ Johnson, whose syllabus and teaching of this class helped shape this class.

REQUIRED COURSE MATERIALS

Make: Getting Started with Processing by Ben Fry and Casey Reas (2nd Edition, 2015) <http://www.amazon.com/dp/1457187086 > (~$17)

As students, you won't be required to purchase Processing (if you start to use it professionally, I'd encourage you to donate time or $ to the Processing Foundation). Processing runs on Windows and Linux; however, I'll be teaching the workshops on a Mac (so if you have access to a Mac laptop, it will probably make it easier to follow along in class).

Processing Software: <http://processing.org >

ADDITIONAL LEARNING RESOURCES

Daniel Shiffman's Video Tutorials <https://www.youtube.com/watch?v=2VLaIr5Ckbs, http://hello.processing.org >

Learning Processing: A Beginner's Guide to Programming Images, Animation, and Interaction by Daniel Shiffman (2nd edition, 2015) <http://learningprocessing.com >

for inspiration…
Form+Code in Design, Art, and Architecture by Casey Reas and Chandler McWilliams (2010) <http://www.formandcode.com >
The Nature of Code: Simulating Natural Systems with Processing by Daniel Shiffman (2012) <https://natureofcode.com >
Generative Design by Hartmut Bohnacker, Benedikt Gross, Julia Laub, and Claudius Lazzeroni (2012)
Creative Applications (CAN) <http://www.creativeapplications.net >
#creativecoding <https://www.instagram.com/explore/tags/creativecoding/ >

SCHEDULE

Week 01. 08/20/2018 <intros: teacher, TA + students, creative coding + processing
class activity: sol lewitt
reading/viewing: *1/Hello, 2/Starting to Code,*
https://processing.org/tutorials/gettingstarted/ >

Week 02. 08/27/2018 <form + color // josef albers, anne truitt, ellsworth kelly
reading: *chapter 3/Draw* >

Week 03. 09/03/2018 <*labor day (no class)* >

Week 04. 09/10/2018 <working with variables // takashi murakami
reading: *4/Variables*
homework 01 due: draw >

Week 05. 09/17/2018 <variables part II. for loops // mondrian, agnes martin
reading: *4/Variables*
homework 02 due: variables I >

Week 06. 09/24/2018 <track the mouse, speed, ease // jung do-jun — *…returning home*
3D drawing? // beverly pepper — *early sculpture w kinetic element*
click, hover, key press // design I/O — *connected worlds*
reading: *5/Response*
homework 03 due: variables II (for loop) >

Week 07. 10/01/2018 <image, text, shape // photomontage: grosz and heartfield, höch
reading: *6/Media*
homework 04 due: response >

Week 08. 10/08/2018 <bouncing ball, hit detection, ++ // atari pong
and/or spotify song artwork video loop // maribou state
reading: *7/Motion*
homework 05 due: media >

Week 09. 10/15/2018 <building blocks of code // matisse — *la gerbe*
reading: *8/Functions*
homework 06 due: motion >

Week 10. 10/22/2018 <object oriented programming // *TBD*
reading: *9/Objects*
homework 07 due: functions >

Week 11. 10/29/2018 <variables and objects —> arrays // *TBD*
reading: *10/Arrays*
homework 08 due: objects >

Week 12. 11/05/2018 <extend: qualitative space, look + feel // o'keeffe, tomory dodge

homework 09 due: arrays >

Week 13. 11/12/2018 <extend: shiffman *nature of code*, (reynolds) flocking, reas
homework 10 due: quality >

Week 14. 11/19/2018 <working session
homework 11 due: extend >
11/22-25/2018 <thanksgiving recess>

Week 15. 11/26/2018 <working session>

Week 16. 12/03/2018 <*Study Days: 12/01 - 12/04/2018 (no class)* >

FINAL EXHIBIT. 12/10/2018 4:30-6:30 p.m. <in-class exhibition >

GRADING

In general, you will be graded using these criteria:

- Conceptual Core: Is the work's thesis clearly articulated? Is the project productively aligned with the weekly topic of discussion? Does the project effectively engage with the primary issues presented in the assignment?
- Research Competence: Does the project display evidence of research and thoughtful engagement with its subject?
- Form and Content: Do structural and formal elements of the code reinforce the conceptual core in a productive way? Is the effectiveness of the project compromised by technical problems? (<— not good)
- Creative Realization: Does the project approach its subject in creative or innovative ways? Does the project use media and design principles effectively? Does the project use code in an interesting way?

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

weekly studies (8%*11)	88%
final project	12%
	100%

Late weekly projects are up to -4% off, late final is up to -6% (of your final grade).

ATTENDANCE POLICY

Each project builds on knowledge of all the classes before it, so it's important that you're 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. >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.

POLICY ON CODE CITATION

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.

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. 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.

IMAP/SCA POLICIES

School Of Cinematic Arts Student Code Of Conduct
<https://cinema.usc.edu/studentaffairs/conduct.cfm >

STATEMENT ON ACADEMIC CONDUCT AND SUPPORT SYSTEMS

Academic Conduct:
Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, "Behavior Violating University Standards" https://policy.usc.edu/scampus-part-b/. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct.

Support Systems:
Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. https://engemannshc.usc.edu/counseling/

National Suicide Prevention Lifeline – 1-800-273-8255
Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.
http://www.suicidepreventionlifeline.org

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call
Free and confidential therapy services, workshops, and training for situations related to gender-based harm. https://engemannshc.usc.edu/rsvp/

Sexual Assault Resource Center
For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: http://sarc.usc.edu/

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086
Works with faculty, staff, visitors, applicants, and students around issues of protected class. https://equity.usc.edu/

Bias Assessment Response and Support
Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response.
https://studentaffairs.usc.edu/bias-assessment-response-support/

The Office of Disability Services and Programs
Provides certification for students with disabilities and helps arrange relevant accommodations. http://dsp.usc.edu

Student Support and Advocacy – (213) 821-4710
Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic.
https://studentaffairs.usc.edu/ssa/

Diversity at USC
Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. https://diversity.usc.edu/

USC Emergency Information
Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible, http://emergency.usc.edu

USC Department of Public Safety 213-740-4321 (UPC) and 323-442-1000 (HSC) for 24-hour emergency assistance or to report a crime.
Provides overall safety to USC community. http://dps.usc.edu