USC School
of Cinematic Arts

CLASS DETAILS

IML 288:   Critical Thinking and Procedural Media (4.0 units)
Instructor: John Carpenter < johncarp@usc.edu >
Session 001: Monday 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. 08/26/2019 <intros: teacher + students, creative coding + processing
                      class activity: sol lewitt process —> code
                      reading/viewing: *1/Hello, 2/Starting to Code,*
                      https://processing.org/tutorials/gettingstarted/ >

Week 02. 09/02/2019 *<labor day (no class) >*

Week 03. 09/09/2019 <form + color // **hilma af klint, anni** + josef albers, anne truitt,
                      ellsworth kelly, **mondrian**
                      reading: *chapter 3/Draw >*

Week 04. 09/16/2019 <working with variables // takashi murakami
                      reading: *4/Variables*
                      homework 01 due: draw >

Week 05. 09/23/2019 <variables part II. for loops // agnes martin, **bridget riley**
                      reading: *4/Variables*
                      homework 02 due: variables I >

Week 06. 09/30/2019 <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. 10/07/2019 <image, text, shape // photomontage: grosz and heartfield, höch
                      reading: *6/Media*
                      homework 04 due: response >

Week 08. 10/14/2019 <bouncing ball, hit detection, ++ // atari pong
                      and/or spotify song artwork video loop // maribou state
                      reading: *7/Motion*
                      homework 05 due: media >

Week 09. 10/21/2019 <building blocks of code // matisse — *la gerbe*
                      reading: *8/Functions*
                      homework 06 due: motion >

Week 10. 10/28/2019 <object oriented programming // *TBD*
                      reading: *9/Objects*
                      homework 07 due: functions >

Week 11. 11/04/2019 <variables and objects —> arrays // *TBD*
                      reading: *10/Arrays*
                      homework 08 due: objects >

Week 12. 11/11/2019 <extend: qualitative space, look + feel // o'keeffe, tomory dodge
                     homework 09 due: arrays >

Week 13. 11/18/2019 <extend: shiffman *nature of code*, (reynolds) flocking, reas
                     homework 10 due: quality >

Week 14. 11/25/2019 <working session
                     homework 11 due: extend >

     11/27-29/2019 <thanksgiving recess >

Week 15. 12/02/2019 <working session >

     12/07-10/2019 <study days / no class >

FINAL EXHIBIT. 12/16/2019 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 or 09. Grades will be determined as
follows:

weekly studies (7.5%/study)   82.5%
participation + peer review   02.5%
final project   15.0%
                                  _____
                                   100.0%

Late weekly projects are up to -2.5%, a late final is up to -7% (of your final grade).

Participation + Peer Review
Your class participation grade will be evaluated by your contributions to critiques
and class discussions. In short, I'm looking forward hearing your thoughts about the
material covered in class — the more voices that are involved, the better the
conversation will be.

Peer review is an important aspect of class since it not only sharpens your skill at
critical analysis while it also gives you more awareness of how others receive your
work. Each project will be discussed and reviewed (by the professors and other
students). You will be evaluated on the quality of your review (though your review
will not impact your colleagues' project grade).

GRADING SCALE

Course final grades will be determined using the following scale:

A   95-100
A-   90-94
B+   87-89
B   83-86
B-   80-82
C+   77-79
C   73-76   MINIMUM PASSING GRADE FOR MEDIA ARTS + PRACTICE MAJORS
C-   70-72
D+   67-69
D   63-66
D-   60-62   MINIMUM PASSING GRADE FOR USC
F   59 and below

ABSENCE 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.

MA+P classes depend on group work and in-class critique, which makes attendance crucial. You are expected to be present for every scheduled class session. If you must miss a class, please be sure to get any notes and assignments from a classmate so you do not fall behind.

There is no distinction between excused and unexcused absences. Tardiness or leaving class early for (0 to 15 minutes) will be considered ½ an absence. Missing more than 30 minutes of a class is considered an absence. After your second absence, each additional absence will lower your final grade by 5%.

Please note that the grading policy makes it nearly impossible to pass the course should you miss more than three classes in a semester. If you anticipate attendance issues, please notify your professor immediately.

ACADEMIC POLICIES

Diversity Statement:
Diversity and Inclusion are foundational to the SCA community. We are committed to fostering a welcoming and supportive environment where students of all identities and backgrounds can flourish. The classroom should be a space for open discussion of ideas and self- expression; however, SCA will not tolerate verbal or written abuse, threats, harassment, intimidation or violence against person or property. If students are concerned about these matters in the classroom setting they are encouraged to contact their SCA Diversity and Inclusion Liaison, http://cinema.usc.edu/about/ diversity.cfm; e-mail diversity@cinema.usc.edu. You can also report discrimination based on a protected class here https://equity.usc.edu/harassment-or-discrimination/

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.

Statement on Fair Use:
Fair use is a legal principle that defines certain limitations on the exclusive rights of copyright holders. MA+P projects are produced with fair use doctrines in mind using its four pillars: (1) the purpose and character of use, (2) the nature of the copyrighted work, (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole, and (4) the effect of the use upon the potential market for or value of the copyrighted work. Generally speaking, this means you must only use as much of a copyrighted work as is necessary to make your point, and you must cite your sources accordingly.

Citation Guidelines:
We assert that work produced in our classes is covered under the Doctrine of Fair Use. In order to make this claim, however, all projects must include academically appropriate citations in the form of a References section, which covers all sources, in order to receive a passing grade. The References section is either included in the project itself or as a separate document, as appropriate. We follow the Kairos Journal of Rhetoric, Technology and Pedagogy style guide for citation purposes; Kairos uses a modified APA format, whose general guidelines and specific examples may be found here: http://kairos.technorhetoric.net/styleguide.html#apa

Computer Code:
Computer code is often shared and reused. This is appropriate in a MA+P course unless otherwise directed by the assignment. If you do use code, you should attribute it. Please follow these protocols from MIT which call for placing a comment in one's code with a URL to the original source, a note if it was adapted, and the date of retrieval: https://integrity.mit.edu/handbook/writing-code

Disruptive Student Behavior:
Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. A student responsible for disruptive behavior may be required to leave class pending discussion and resolution of the problem and may be reported to the Office of Student Judicial Affairs for disciplinary action.

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

Student Health Leave Coordinator – 213-821-4710
Located in the USC Support and Advocacy office, the Health Leave Coordinator processes requests for health leaves of absence and advocates for students taking such leaves when needed. // https://policy.usc.edu/student-health-leave-absence/

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

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

Office of Equity and Diversity (OED) | Title IX - (213) 740-5086
http://equity.usc.edu, http://titleix.usc.edu
Information about how to get help or help a survivor of harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital

status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations.

Bias Assessment Response and Support - (213) 740-2421
http://studentaffairs.usc.edu/bias-assessment-response-support
Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation and response.

The Office of Disability Services and Programs - (213) 740-0776 // http://dsp.usc.edu
Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

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

Diversity at USC - (213) 740-2101 // http://diversity.usc.edu
Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Trojan Food Pantry // https://campusactivities.usc.edu/trojan-food-pantry/
Any currently enrolled USC student who does not have a dining hall meal plan or whose plan's swipes have been fully used and is experiencing a food emergency/food insecurity qualify for the services of the Trojan Food Pantry.

USC Emergency – UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
http://dps.usc.edu, http://emergency.usc.edu
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety – UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call // http://dps.usc.edu
Non-emergency assistance or information.

PLEASE NOTE:
FOOD AND DRINKS (OTHER THAN WATER) ARE NOT PERMITTED IN ANY INSTRUCTIONAL SPACES IN THE CINEMATIC ARTS COMPLEX