USC Iovine and Young Academy
Arts, Technology and the Business of Innovation

ACAD 178: Digital Toolbox: Motion Graphics
Units: 2
Day-Time: Spring 2021, MW 10:30am - 11:50am

Location: Online

Instructor: Aaron Siegel
Office: IYH
Office Hours: By appointment.
Contact Info: aaronsie@usc.edu

IT Help: http://iovine-young.usc.edu/ait/index.html
Hours of Service: M-F, 8:30am - 5:00pm
Contact Info: iyhelp@usc.edu, 213-821-6917

Course Description

ACAD 178 - Motion Graphics intends to introduce students to tools for the creation of two dimensional animations with a particular focus on generative composition. The course is broken down into two main components; non-linear digital animation using Adobe After Effects, and object oriented programming of generative compositions using Javascript and P5.js. Students will concentrate on conceptual elements of animation, visual composition, timing, color, typography, and interaction design while simultaneously providing context for learning the technical knowledge required to execute complex visual effects in software.

Learning Objectives and Outcomes

1. Understand concepts and principles related to visual composition, typography, timing, generative graphics, and interactive engagement.
2. Learn the fundamentals of linear animation and dynamic dynamic.
3. Develop creative ideas around the concepts of pattern, typography, systems, and user engagement.

Prerequisite(s): None.
Co-Requisite(s): None.
Concurrent Enrollment: None.
Recommended Preparation: Have Adobe After Effects installed prior to the first day of class.

Course Notes

The class will be a mix of technical demonstrations, software workshop exercises, lectures on the history and contemporary applications of motion graphics, as well as collective critique sessions. Technical demonstrations may be recorded and shared with the students afterward for further review. Lecture materials will be made available on Blackboard or via class email.

Technological Proficiency and Hardware/Software Required

- Laptop computer with authorized installations of the following software:
    - Adobe Creative Suite (After Effects, Illustrator, Audition)
    - SublimeText, Atom, Adobe Brackets, or the code editor of your choice.
    - MAMP (www.mamp.info)
    - p5.js (www.p5js.org)

Required Readings and Supplementary Materials
- Mark Christiansen - After Effects CC 2020 Essential Training: The Basics
- Alan Demafiles - After Effects CC 2019 Essential Training: Motion Graphics
- Alan Demafiles - After Effects CC 2019 Essential Training: Editors and Post
- P5.js Tutorials
- Daniel Shiffman - The Nature of Code: Simulating Natural Systems with Processing.

Assignments
1. Top Five Title Sequences (5%)
   - Visit Art of the Title and select four of your favorite title sequences from the site, as well as one that is not on the site that you consider a personal favorite, and write a short description for each one outlining the characteristics you like about it.
2. Checkpoint + Quiz #1: After Effects Tutorials (5%):
   - Watch the short After Effects video tutorials and follow along on your own screen. Your knowledge will be tested with an in-class quiz.
3. Checkpoint + Quiz #2: After Effects Tutorials (5%):
   - Watch the short After Effects video tutorials and follow along on your own screen. Your knowledge will be tested with an in-class quiz.
4. Checkpoint + Quiz #3: P5.js Tutorials (5%):
   - Go through the P5.js Text Tutorials: Getting Started and Overview. Your knowledge will be tested with an in-class quiz.
5. Checkpoint + Quiz #4: Nature of Code Ch. 1-4 (5%):
   - Visit the Nature of Code website and read: Introduction, Vectors, Forces, Oscillation, and Particle Systems. Your knowledge will be tested with an in-class quiz.
6. Project #1: Looping Animation (15%):
   - Create an animated composition following the rules presented. Include your After Effects project files in a ZIP file when submitting. The rules must be followed explicitly, but any room for interpretation is encouraged to be played with.
7. Project #2: Kinetic Typography (20%):
   - Use 8, 16, or 20 lyrical measures of a song (ie: a verse) to create a short video using kinetic typography animated in sync with the music. Use After Effects and the various text, shape and effects tools to implement the appropriate styles and animations to match the style of music and content of the lyrics.
8. Project #3: Generative Composition (20%):
   - Using P5.js create a generative animated composition. Your software should make use of variables, loops, objects, and random/noise functions.
9. Project #4: Interactive Graphics (20%):
   - Use mouse, touch, keyboard, camera, or microphone interaction to affect on screen graphics through responsive, meaningful, and engaging interactions and animation.

Grading Breakdown		Grading Scale		
Top Five Title Sequences	5%		A = 100 - 95	A- = 94 - 90
Looping Animation	15%	B+ = 89 - 87	B = 86 - 83	B- = 82 - 80
Kinetic Typography	20%	C+ = 79 - 77	C = 76 - 73	C- = 72 - 70
Generative Composition	20%	D+ = 69 - 67	D = 66 - 63	D- = 62 - 60
Interactive Graphics	20%	F = 59 and below		
Checkpoints and Quizzes (4)	20%			

Weekly Class Schedule

Week	Monday	Wednesday
1	*1/18:* ***MARTIN LUTHER KING DAY: No Class.***	*1/20:* Syllabus, Schedule, Assignments. After Effects Interface. Photoshop / Illustrator Pipeline. Importing Illustrator files as Compositions.
2	*1/25:* Footage, Compositions, Assets. Timeline, Layers, Properties, Keyframes. Shapes. Exporting Media.	*1/27:* Due: Top Five Title Sequences. Pen Tool. Paths.
3	*2/3:* Quiz #1: After Effects Basics Checkpoint #1: After Effects Tutorials. Track Mattes and Masks. Nesting Compositions.	*2/5:* Parent/Child Layer Relationships. Motion Blur. Continuous Rasterization.
4	*2/8:* Due: Project #1: Looping Animation. Presentations & Critique.	*2/10:* Audio in Audition & After Effects.
5	*2/15:* ***PRESIDENT'S DAY: No Class.***	*2/17:* Text Layers. Snapping & Alignment.
6	*2/22:* Effects and Presets.	*2/24:* Particle Systems.
7	*3/1:* Quiz #2: After Effects Features Checkpoint #2: After Effects Tutorials. 3D Transforms, 3D Renderers.	*3/3:* Lights. Materials. Cameras.
8	*3/8:* Due: Project #2: Kinetic Typography. Presentations & Critique.	*3/10:* Code Ethics. Setting up a p5.js sketch. Basic Syntax, Drawing Functions. Documentation, Reference, Resources.
9	*3/15:* Variables, Values, Operators. Conditionals, Loops.	*3/17:* Functions, Arrays, Classes, Objects.
10	*3/22:* Quiz #3: JavaScript and P5.js Basics Checkpoint #3: P5.js Tutorials. Vectors, Math Functions.	*3/24:* Local Server. Loading/Drawing Images. Photoshop / Illustrator / P5.js Pipeline.
11	*3/29:* Working with Image Data.	*3/31:* Text. Custom Fonts.

12	**4/5:** Due: Project #3: Generative Composition. Presentations & Critique.	**4/7:** **WELLNESS DAY: No Class**
13	**4/12:** Mouse Input, Keyboard Input.	**4/14:** Forces, Oscillation, Particle Systems.
14	**4/19:** Quiz #4: Generative Animation Checkpoint #4: Nature of Code. Audio Input, Audio Analysis.	**4/21:** Camera Input.
15	**4/26:** WebGL, 3D Shapes, 3D Transforms.	**4/28:** Importing 3D Models.
FINAL	**Monday, May 10th, 11am - 1pm:** Due: Project #4: Interactive Graphics. Presentations & Critique.	

The following software is available for purchase online at the Iovine and Young Academy discounted rate. Please check your Academy course syllabi to see what software you will need.

Software	IYA Short-Term License at USC Bookstore
Adobe Creative Cloud	$70 2020-2021 annual license (active through July 2021)

To purchase:

- Visit: https://commerce.cashnet.com/IOVINE
- Select the software license(s) you would like to purchase by clicking "View Details" or the software title, and make your purchase.
- You will receive an order confirmation receipt at the email address you provided.
- You will be notified by email when the software license has been activated.
- If you have any questions about this process, please do not hesitate to contact Academy IT Support at iyhelp@usc.edu.

Assignment Rubrics
Student work will be assessed based on:
- Level of understanding and execution of software skills on assignments.
- Degree of complexity of the assignment goal both creatively and technically.
- Innovative application of tools and concepts.

Assignment Submission Policy
Submit all of your digital assets via the team Google Drive at least one hour prior to the start of the class session. Make sure you submit the original project file (After Effects project file and resources) as well as a static exported file (compressed .mp4 using h.264 compression).

Grading Timeline

Checkpoints and assignments will be reviewed, graded, and provided with feedback within a week of submission.

Academy Attendance Policy

The Academy maintains rigorous academic standards for its students and on-time attendance at all class meetings is expected. Each student will be allowed two excused absences over the course of the semester for which no explanation is required. Students are admonished to not waste excused absences on non-critical issues, and to use them carefully for illness or other issues that may arise unexpectedly. Except in the case of prolonged illness or other serious issue (see below), no additional absences will be excused. Each unexcused absence will result in the lowering of the final grade by ⅓ of a grade (e.g., an A will be lowered to A-, and A- will be lowered to a B+, etc.). In addition, being tardy to class will count as one-third of an absence. Three tardies will equal a full course absence.

Students remain responsible for any missed work from excused or unexcused absences. Immediately following an absence, students should contact the instructor to obtain missed assignments or lecture notes and to confirm new deadlines or due dates. Extensions or other accommodations are at the discretion of the instructor.

Automatically excused absences normally may not be used for quiz, exam or presentation days. Using an excused absence for a quiz, exam or presentation, such as in the case of sudden illness or other emergency, is at the discretion of the instructor.

In the case of prolonged illness, family emergencies, or other unforeseen serious issues, the student should contact the instructor to arrange for accommodation. Accommodation may also be made for essential professional or career-related events or opportunities. All accommodations remain at the discretion of the instructor, and appropriate documentation may be required.

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" 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, policy.usc.edu/scientific-misconduct.

Support Systems:

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

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call
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) —213-740-9355 (WELL)
https://studenthealth.usc.edu/sexual-assault/
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Relationship and Sexual Violence Prevention and Services provides immediate therapy services for situations related to gender- and power-based harm (e.g., sexual assault, domestic violence, stalking). (wording from the site)

Office of Equity and Diversity (OED) | Title IX - (213) 740-5086
equity.usc.edu, 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.

USC Policy Reporting to Title IX (213) 740-5086
https://policy.usc.edu/reporting-to-title-ix-student-misconduct/
The university encourages individuals to report prohibited conduct to the *Title IX Office*. Individuals can report to the university *Title IX Coordinator* in the *Office of Equity and Diversity.*

Bias Assessment Response and Support - (213) 740-2421
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
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
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
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 Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, 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
dps.usc.edu
Non-emergency assistance or information.