

# San José State University

## Department of Art & Art History

### Art 101 Intro to Creative Coding

#### Spring 2021, Online

Instructor: Andrew Blanton  
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Office Hours: T 3-5 or by appointment  
Class Day/Time: T 12-2:50  
Prerequisite: Art 74 +75  
Department Office: Art 116  
Department Contact: [art@sjsu.edu](mailto:art@sjsu.edu)

#### **Course Format**

This is a technology-intensive studio class. Lectures and labs are required. All course materials, submissions, and communication will be through the [Canvas Learning Management System course login website](#) at <http://sjsu.instructure.com>.

#### **Course Description**

Experimental applications in creative coding as an art practice. Focus includes programming interactivity, generative graphics, intro to data visualization and user interface and user experience strategies. Prerequisite: ART 074, ART 075 or instructor consent. Misc/Activity: 6 hours activity

New/Emergent Media Art—more than any other artistic medium—is marked by its relationship to developing technology. With each advancement in media/communication technologies, early advocates champion the potential for democratization of idea exchange and positive social impact. However, these utopian visions are quickly subsumed by often dystopian realities of institutional power and control. While building technical skills in HTML/CSS and JavaScript with the p5.js library, we will discuss both the internet's potential for collaboration and also its pitfalls as an unprecedented mechanism for surveillance and control. The course will follow a feminist, anti-racist history of computing, covering surveillance capitalism, algorithmic bias, data gaps, and prioritizing students' lived experiences in relationship to the internet. We will look at examples of early NetArt from the 1990s to the present, highlighting expressive and critical uses of the web, critical/queer interactivity, and tactical media.

#### **Learning Outcomes**

Upon successful completion of this course, students will be able to:

**LO1:** Develop strategies for students to create their own custom software as art.

**LO2:** Develop criteria for evaluating how to design and produce interactive digital media.

**LO3:** Identify the broad trends of interactive digital media and its aesthetics.

**LO4:** Plan and practice writing simple programs in a several different programming languages/authoring systems.

**LO4:** Articulate and recite introductory programming concepts related to artist making code in different programming languages/frameworks like Processing, Javascript, PHP.

**LO5:** Build HTML/CSS based webpages to document their artwork and creative process

## Required Texts/Readings

No required textbook. Readings will be available on Canvas in pdf format.

## Other Readings

1. Make: Getting Started with p5.js: Making Interactive Graphics in JavaScript and Processing, by Lauren McCarthy, Ben Fry, and Casey Reas
2. Web Design and HTML, CSS JavaScript and jQuery Set, (2 books), by Jon Duckett

## Course Web Materials

ART 101 Course materials can be found on the [Canvas Learning Management System course login website](http://sjsu.instructure.com) at <http://sjsu.instructure.com>. You are responsible for regularly checking Canvas and your email for updates. Please make sure your Canvas contact works by viewing the syllabus announcement during the first day of class.

## Library Liaison : Aliza Elkin

email: [aliza.elkin@sjsu.edu](mailto:aliza.elkin@sjsu.edu)

Dr. Martin Luther King, Jr. Library  
4th Floor Administration Offices

## Course Requirements and Assignments

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

This course will be following a flipped classroom model for learning. Activities traditionally expected in the classroom v. homework will be flipped. **You are expected to watch video tutorials outside of class. Class will focus on lab time to complete assignments (traditionally thought of as “homework”).** Class will also be used for discussion of artists and readings, active learning exercises, review, quizzes, and challenges. This optimizes time for peer and instructor support (a great way to minimize frustration while learning to code). All shorter assignments can be completed in class. Culminating projects for each node might require work outside of class. Video tutorials will be relatively short. Students will be expected to code along with the video: the code itself will not be provided.

**There are 5 nodes in this class, each with short exercises and a culminating project.**

**Node 1: Avatar** – you will create an animated avatar that responds to user input.

**Node 2: Randomizer** – build a meaningful (but random) randomizer ;)

**Node 3: Drawing Machines** – create a program that creates unique, compelling visual output based on user interaction.

**Node 4: Radical Play** — design and build a game that challenges conventions of play.

**Node 5: Final Project** – Move your skills beyond what has already been covered to create a Final Project of your choice. Demos and exercises will be provided in class, but it is expected that you also seek out tutorials on your own.

## Grading Information

Students are required to submit all course assignments on Canvas. Students must also be present for project critiques: **critiques are not optional.**

## Determination of Grades

### Late Policy

All assignments must be presented on the due date. For each day the work is late, the work decreases by half a grade (a B+ goes to B-, a B- to a C+, etc.). **Remember finished is better than perfect: It is better to turn something in than nothing at all.** Late projects will not have the opportunity for a critique, and none will be accepted 2 weeks after the deadline. Extensions will only be granted under unusual, extenuating, or emergency circumstances.

All projects are evaluated based on their conceptual content, technical proficiency, and presentation according to the criteria provided below.

### Relative weight of course requirements:

#### Assignment type breakdown:

3 Projects @ 10% each =	30%
1 Final Project =	20%
15 Short assignments (code tutorials) @ 2% each =	30%
12 Quizzes @ <1% each =	10%
15 Short responses (discussion prompts) @ <1% each =	10%
Total =	100%

### Extra Credit:

Attend a talk / art show and submit 1 page response = 3%

## Rubric and Grading Criteria

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Overall artwork Quality	exceptional	strong	average	poor
Comprehension of medium, history and cultural context	Challenges Medium technically and conceptually	Strong Technical and conceptual work	Technically working with a concept	Project working with no concept or Full concept with a model that does not work
Engagement with work	Multiple ideas and approaches considered in the creation of a unique work	Multiple ideas and approaches considered in the creation of an aesthetically strong work	An idea executed with expected outcome in a medium	Insufficient engagement to produce proposed work
Deliverable	Turned in on time with outstanding documentation on process and concept, portfolio ready	Turned in on time with full documentation of process and concept with superior reference and image, text video etc	Turned in on time with full documentation on process and concept	Turned in late with lacking documentation of process and concept

## **Numeric grade equivalents:**

<i>Grade</i>	<i>Percentage</i>
<i>A plus</i>	<i>97 to 100%</i>
<i>A</i>	<i>93 to 96%</i>
<i>A minus</i>	<i>90 to 92%</i>
<i>B plus</i>	<i>87 to 89 %</i>
<i>B</i>	<i>83 to 86%</i>
<i>B minus</i>	<i>80 to 82%</i>
<i>C plus</i>	<i>77 to 79%</i>
<i>C</i>	<i>73 to 76%</i>
<i>C minus</i>	<i>70 to 72%</i>
<i>D plus</i>	<i>67 to 69%</i>
<i>D</i>	<i>63 to 66%</i>
<i>D minus</i>	<i>60 to 62%</i>

**Please note:** Except in cases of documented emergencies, incomplete grades are not given in this course.

“All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See University Policy F13-1 at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

### **Additional Note:**

This syllabus is subject to change, in the event of unforeseen circumstances, or in the case that changes will significantly enhance the quality of the course.

### **Department Advising**

For information about majors and minors in Art & Art History, for change of major/minor forms and a list of advisors: <http://www.sjsu.edu/art/> or the Art & Art History department office in ART(H)/(PHOT) 116, 408-924-4320, [art@sjsu.edu](mailto:art@sjsu.edu)

## **Classroom Protocol**

### **Group Agreements**

We may discuss controversial issues, difficult subjects, and matters that are personally important to someone in the class. We will work together to craft group agreements (code of conduct) outlining our agreed-upon guidelines for creating a respectful class environment. It is expected that students will act in accordance with group agreements for the remainder of the semester.

### **Participation:**

- Participation in class discussions, critique, and giving feedback to your peers on their work is **mandatory**.
- On Presentation days you must be able to explain and give a clear presentation of your work.
- Students are expected to participate in discussion and peer support in the class Discord server.

### **Online Class Protocol:**

All classes will meet via Zoom during the regular class hours. Students may ask questions in the Zoom chat or use the “hand raise” icon to get the professor’s attention. Students are asked to remain on mute while not speaking, should arrive punctually for the Zoom classes, and adhere to the Netiquette guidelines outlined in Canvas. Federal, state, CSU system, and campus regulations on conduct including harassment and discrimination against other students or faculty apply to the online environment, just as in face-to-face instruction.

### **Notes on Zoom Privacy:**


**Meeting Transcripts** - Zoom allows participants to communicate with group messages to all of the meeting participants and/or to send private messages to individual participants. Although it seems reasonable that private messages stay between two people, please be aware that private chats *sent to the host* will be included in the transcript (but not private messages sent between student participants).

**Meeting Attendance Report** - Zoom provides a roster of people who attended the meeting along with the times they joined and left the meeting.

**Meeting Recordings** - Parts of classes (lectures only) will be recorded in Zoom and posted to Canvas. Only the active speaker will be captured in Zoom recordings. If you would like to remain anonymous, you have the option to remain silent during recording sessions or remove identifying information (name and picture). Though you may watch the videos online, you are not permitted to download the videos.

**Cameras:** If possible, it is expected that students enable their cameras, especially during small group breakouts. However, enabling your webcam does not affect your success in the course. Please let the professor know if you have special needs or requests around video, eg. technological barriers and privacy of family members.

## Schedule:

Week	Date	Module	Topics   Readings   Viewings	Assignments
1	1/28	0: COURSE INTRO	Code of Conduct Group reflection on Avatars	Complete student info form Join Discord
2	02/02	1: AVATAR	Discuss Reading Programmatic logic: How tell the computer what to do	Response - Reading "The Dads of Tech"  Avatar sketch on grid (ungraded)
	02/04		Drawing in p5: calling functions	1.0 - Make your avatar: use at least 5 different drawing functions and built-in width/height values  Quiz
3	02/09		Functions: restructure your drawing into functions	1.1 - Re-organize your avatar code into functions to eliminate repetition. Create 3 or more functions and use function parameters/arguments at least once  Response - Artists viewed in class
	02/11		Variables Setup and draw loops Console.log & string operations Intro to operators	1.2 - Replace a value with a dynamic variable tied to the microphone: make your avatar react to sound input !   Quiz
4	02/16		Logical statements and operators Conditional / if statements User interaction: Mouse position	1.3 - Mouse interaction: shapes/colors change when your mouse moves
	02/18		Incrementing values	1.4 Variables increment to create time-based movement (ie. something falls on its own)  Quiz

5	02/23		Classes	1.5 - Create a class to draw a new object and draw multiples of it to the screen  Response - Artists viewed in class
	02/25		Lab / Review  In-class group code challenge	Quiz (In-class code challenge)
6	03/02		Present Avatars  GitHub Using Atom Intro to objects	Project 1: Avatar due  Response: Avatar project slide / description
	03/04	2: RANDOMIZER	HTML / CSS Review Adding p5 sketch to webpage  Objects + arrays	2.0 Create repositories to host your avatar and randomizer as GitHub project pages  Quiz
7	03/09		Objects + arrays Text in p5 Deleting items from arrays	2.1 - Randomizer Start  Response (TBA)
	03/11		Modifying the DOM - How to have JavaScript interact with HTML/ CSS	2.2 Randomizer Complete (just in p5.js Canvas)  Quiz
8	03/16		HTML/CSS Review UI/UX	2.3 - Randomizer w/ DOM input  Response (TBA)
	03/18		Present Randomizers  Review In-class group code challenge	Project 2: Randomizer due  Quiz
9	03/23	3: DRAWING MACHINE	Discuss response to Buolamwini video  User interacton: Mouse/keyboard events	Response: Video - Compassion through Computation: Fighting Algorithmic Bias   Joy Buolamwini
	03/25		Exercise: Intro to for loops  Make p5 canvas full screen	3.0 - Make a simple drawing machine (vids 3.0-3.6)  Quiz

10	03/30		<b>Spring Break!!</b>	
	04/01		<b>Spring Break!!</b>	
11	04/06		2d array (grid / nested for loops) Pair class exercise in recreating drawings using loops	3.1 - Add randomness to your drawing machine  Response (TBA)
	04/08		Response: Creative vision / critical content to your drawing machine	3.2 - Add loops to your drawing machine  Quiz
12	04/13		(Buffer day)	Response (TBA)
	04/15		Present Drawing Machines	Project 3: Drawing Machines Due  Quiz
13	04/20	4: RADICAL PLAY	Player controller and collision Creating states in games	4.0 Keyboard control + collision  Response: Queer Failure + No Fun
	04/22		Revisit classes Spawn objects	4.1 Spawn enemies + game stages  Quiz
14	04/27		Art for games	Response: Artists viewed in class
	04/29		Lab / Review / Catchup	Quiz
15	05/04		Play games Share Final Project Ideas	Project 4: Games Due  Response: Final Project Ideas
	05/06	5: FINAL PROJECTS	Present Final Project Proposals	Final Project Proposal Due
16	05/11		Present Final Project Proposals  Lab / Review	Response: Artists viewed in class
	05/13		Last Day of Instruction! Lab / Review	
17	TBD		<b>Finals Meeting + Class party - 2:45-5:00pm</b>	<b>Final Projects Due</b>



# University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>."

## **Accommodation:**

Please let the instructor know on the class intro form if you need accommodations or assistive technology due to a disability. Students who need special accommodations should work with the Accessible Education Center (AEC) and the instructor.