

Digital Materials

ART 193

Spring 2026 Section 01 In Person 3 Unit(s) 01/22/2026 to 05/11/2026 Modified 01/19/2026

Course Information

Studio

Tuesday, Thursday, 3:00 PM to 5:50 PM, SJSU Art Foundry

1036 S 5th St, San Jose, CA 95112

Course Description and Requisites

Technical skills to facilitate the realization of projects conceptually rooted in an analysis of computational media and its relationship to the physical world. Introduction to video and computational outputs integrated with tangible presentation methods. Material survey, exhibition strategies, and introductory fabrication techniques that facilitate projects bridging computation, architecture, objects, and the body.

Prerequisite(s): ART 74 and ART 75

Misc/Activity: 6 hours activity

Letter Graded

* Classroom Protocols

Participation expectations

- Students are expected to be present at every scheduled class meeting. If students miss a course activity for personal reasons beyond their control, they must contact the instructor
- Students must use class time to work on team projects
- Use SJSU facilities and resources to create work
- Complete required shop certifications
- Keep your work area tidy: Clean up before leaving the shop.
- Teams are responsible for their assigned projects
- Team members are expected to maintain communication to accomplish goals
- Maintain professional communication with all project stakeholders and participants

- Be a reliable team member

Late Work

Late work is still eligible for submission with a 2% deduction of the final grade per day that it is late. This applies to assignments and projects unless prior arrangements have been made with your instructor.

Program Information

Department Name: Art and Art History

Department Office: ART 116

Department Website: www.sjsu.edu/art

Department Email: art@sjsu.edu

Department phone number: 408-924-4325

Course Goals

Get hands-on experience bringing your creative ideas to life. In this class, you'll transform 3D modeling and creative problem-solving skills into tangible installations using cutting-edge tools like 3D printers, CNC machines, laser cutters, and metal casting equipment. Learn to harness digital data for interactive physical interfaces, LED systems, and video projection mapping.

At the SJSU Art Foundry, you'll gain valuable skills in digital fabrication while working in teams to produce real-world installations for public spaces during the San Jose'26 program with the City of San José. The results from this class will be displayed in the city during the 2026 FIFA World Cup in Santa Clara County locations.

Course Learning Outcomes (CLOs)

LO1: Create projects that integrate material concerns with code development and digital devices.

LO2: Develop software for embodied interaction with digital devices.

LO3: Integrate the display of virtual environments with physical materials.

LO4: Design & Construct exhibitions that integrate physical, electronic, and digital components.

LO5: Approach critical issues related to interactive, virtual, and networked art practices in the digital age.

LO6: Discuss artwork in the context of contemporary theory and in relation to current events.

Course Materials

Physical materials

- Data Storage: Portable Hard drive/ Cloud services
- USB flash drive 8GB
- Laptop computer
- Sketchbook or class folder
- Pencils, colors, markers
- Phone with a Camera or video camera
- Metal, Wood, PLA, TPU, additional materials and tools for fabrication are provided

Software*

- Adobe Illustrator or other Vector Design program
- Discord (<https://discord.com/>). For class team collaboration
- Onshape (<https://www.onshape.com/en/>)
- Vectric V-Carve (included with ShopBot)
- Orca Slicer (<https://orcalslicer.com/>)
- Slicer for Fusion ([slicer link](https://www.autodesk.com/support/technical/article/caas/tsarticles/ts/3yg7zznS94MHNDG7KMV8Qg.html)
(<https://www.autodesk.com/support/technical/article/caas/tsarticles/ts/3yg7zznS94MHNDG7KMV8Qg.html>))
- Blender 3D (<https://www.blender.org/>)
- Arduino (<https://www.arduino.cc/>)
- Touch Designer (<https://derivative.ca/>)
- Mad Mapper (<https://madmapper.com/>)

*Free to all SJSU students

☰ Course Requirements and Assignments

Reports

Bi-weekly reports documenting project's progress

Assignments

Class assignments include: Shop trainings, self-assessments, team assessments and practicals

✓ Grading Information

Assignments & Participation	20%
Group Reports	50%
Final Individual Report	30%

Breakdown

A	100-90%	Excellent	Student exhibits exemplary effort at comprehension and analysis of the required materials. All written and creative work is lucid and engaging.
B	89-80%	Good	Student completes assignment, and demonstrates a grasp of the key themes of each topic, but not all. Detail, creativity and critical analysis are present.
C	79-70%	Satisfactory	Student completes the assignment but may lack enthusiasm or drive to push the work into a detailed creative or critical space. Student performs little or no creativity or analysis. Problems exist: the work is underdeveloped or incomplete.
D	69-60%	Unsatisfactory	Student does not complete the work as assigned. Substantial problems exist in student's work.
F	< 60%	Fail	Student does not submit work, or work is below unsatisfactory level.

University Policies

Per [University Policy S16-9 \(PDF\)](http://www.sjsu.edu/senate/docs/S16-9.pdf), relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on the [Syllabus Information](https://www.sjsu.edu/curriculum/courses/syllabus-info.php) web page. Make sure to visit this page to review and be aware of these university policies and resources.

Course Schedule

Week	Date	Activity	Date	Activity
1			1/22	Introductions Foundry quiz/Safety walkthrough Self-assessment
2	1/27	Teamwork	1/29	Report 1 Due Teamwork

3	2/3	Teamwork / Install preparation	2/5*	City Hall Plaza Install
4	2/10	Report 2 Due Orthographic sketching Trophy Project Begins	2/12	Team Assessment 1 Due Surface Modeling (onshape)
5	2/17	Orca Slicer Demo Teamwork	2/19	Polygonal modelling (curves)
6	2/24	Teamwork	2/26	Miller Shape Due Teamwork
7	3/3	Report 3 Due Teamwork	3/5	Teamwork
8	3/10	Teamwork Team Assessment 2 Due	3/12	Teamwork
9	3/17	Teamwork	3/19	Teamwork Report 4 Due
10	3/24	March Madness Project Install	3/26*	March Madness Project Install
11	3/31	SPRING BREAK	4/2	SPRING BREAK
12	4/7	Buckyball project begins Teamwork	4/9	Teamwork Report 5 Due
13	4/14	SF Install	4/16*	SF Art Fair
14	4/21	Teamwork	4/23	Teamwork

15	4/28	Teamwork Report 6 Due	4/30	Teamwork
16	5/5	Teamwork	5/7	Team Assessment 3 Due Teamwork
17			5/14	Final Personal Report Due/Critique