Art 107 ~ Advanced Projects in Digital Media Art
worlds (worlds): creating the metaverse

Department of Art & Art History
San José State University
Fall 2021

Instructor	G. Craig Hobbs
Class Days/Time	Tuesday/ Thursday 12:30pm – 3:20pm
Classroom	Online via Zoom + Canvas
Email	gcraig.hobbs@sjsu.edu
Office Location	Online via Zoom (link will be provided via Canvas)
Office Hours	Thursdays 10:00am – 12:00pm
Office Phone	408-924-4401 (please use email instead)
Department Office Location	Art 116
Department Website/ Email	http://www.sjsu.edu/art/ art@sjsu.edu

Course Description

Advanced Projects in Digital Media Art explores the intersection of art and technology through project-based creative research, design and development of interactive artworks. The course topic - *Worlds within Worlds: Creating the Metaverse* - addresses digital media in 2D, 3D, and 4D time/ space through the creation of 3D artworks and real-time immersive 3D worlds, social environments, virtual reality, simulations and games.

As a studio workshop, the course curriculum consists of software workshops, tutorials, assignments and both individual and collaborative projects. Art 107 workshops will be taught using techniques including 3D modeling, world building, photogrammetry, and interactive design using a wide range of industry-standard software applications.

The course addresses critical and creative uses of technology for digital media art through required readings, discussion, and presentations on topics including perspectival space, cybernetics, telepresence, immersive installation, interaction design and virtuality reality. Students are required to consider these and other issues in art, culture, and technology through periodic research blog posts and in-class discussions coupled with course topics.

Students are required to generate original content in both their 3D artmaking and writing. Culminating projects will consist of creating images, objects, ideas and worlds uniquely your own through creative and conceptual application of required course material(s).

Prerequisite: Art 75 + Art 101 Previous introductory digital media art experience and a commitment to in-class and self-directed learning and software practice is required.

Course Learning Objectives Upon completion of this course, students will be able to:	
LO1	Design and build immersive 2D/ 3D images, objects and worlds
LO2	Generate meaningful human-computer interaction using 2D and 3D content
LO3	Employ node-based editing to create 3D objects and worlds via Blender 3D
LO4	Collaborate remotely in 3D virtual spaces to create meaningful interactions across space, time, cultures and borders using https://hubs.mozilla.com
LO5	Create photogrammetry models using 3D reconstruction from 2D imagery
LO6	Write critically and creatively on contemporary issues in immersive arts and technology, tools and techniques while learning unique 2D/ 3D workflows
LO7	Deploy content and programming to generate immersive worlds in Unity through collaboration, 3D modeling and interaction within real-time worlds
LO8	Work collaboratively to build 3D models and immersive worlds for exhibition

Course Website/ Canvas Course Management System (CMS)

Copies of course materials - the syllabus, readings and course updates - are available via the SJSU Canvas course management system (CMS) https://sjsu.instructure.com/ https://sjsu.instructure.com All assignments must be submitted via Canvas and GitHub. Canvas will also be used for periodic announcements and any changes to the course schedule. Please make sure your Canvas contact works by viewing the announcements during the first day of class. Please stay up to date weekly with materials on Canvas.

Course texts

Required readings and course programming assignments will be provided via Canvas CMS in PDF format. All software and workflow documentation is available online. Additional readings, links and course resources will be provided via Canvas CMS.

Course Protocols

The course schedule provides dates, topics, and assignments due on the day they are listed in the schedule, unless otherwise noted. The coursework is cumulative and requires a commitment to software practice to expand upon learned skills. Your ability to advance in 3D is directly linked to the amount of time you commit to learning and troubleshooting software, completing workshops, and creating both individual and collaborative projects.

You are expected to create work independently, on your own time, and in the classroom lab environment with others. You must create original code and digital art for this course. Fair use section 107, US Copyright Act educational and parody use aside, digital content downloaded from the internet should not be presented as your own work(s) of art unless a significant transformation of the content has been achieved to create something new.

Collaboration and Groups

Students working together will be graded based upon the success of the group, and should therefore plan accordingly to define roles and assure equal participation amongst collaborators at the beginning of group projects. Please inform the professor if you are having difficulties with the collaborative dynamic in your group *before* problems arise.

Technology Intensive and Online Courses

This course adopts an online classroom delivery format via Zoom. Requirements for the course include internet connectivity and access to the Zoom videoconferencing software along with a computer to participate in the classroom activities and submit assignments. See *University Policy F13-2* http://www.sjsu.edu/senate/docs/F13-2.pdf for more details.

Department Advising

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

Art and Art History Library Liaison

The Art and Art History library liaison is **Gareth Scott**, a resource for academic and creative research. You may contact Gareth via email at gareth.scott@sjsu.edu or via phone (408) 808-2094 at the Dr. Martin Luther King, Jr. Library/ 4th Floor

Art 107 Assignments and Grading Policy

Submission requirements and rubric are defined in the assignment prompts on Canvas. See course schedule for details. The course schedule provides dates, topics, and assignments *due on the day they are listed in the schedule, unless otherwise noted.*

Date	Assignment	%pts
08/26	**Assignment #1** = Online reading response/ blog post v1.0	5%
09/07	**Assignment #2** = 3D Models shared via https://hubs.mozilla.com	10%
09/21	**Assignment #3** = 3D Objects and Worlds using Mozilla Spoke	10%
10/14	**Assignment #4** = Photogrammetry Projects	10%
11/09	**Assignment #5** = Collaborative Group Proposal	10%
11/23	**Assignment #6** = Collaborative Projects Beta Preview	5%
12/02	**Assignment #7** = Collaborative Projects Final Presentations	25%
09/09 – 12/08	**Assignment #8** = Final/ Research blog post + reading responses v2.0, 3.0 and 4.0 due on various dates and topics ~ *09/09, 09/30, 10/28, (5% each)* and culminating research blogs due *12/08 (10%)*	25%
TOTAL		**100%**

* All assignment rubrics and requirements will be provided in detail via Canvas well in advance of the due date. All assignments must be submitted via Canvas. Assignment due dates are listed in the Art 107 course schedule with a breakdown of weekly topics, techniques, reading assignments, workshops and both collaborative and individual projects.

Grading Policy/ Rubric

A = 100 - 90% ~ Excellent = Student exhibits exemplary effort at comprehension and application of the required materials. All creative and technical work is engaging.

B = 89 - 80% ~ Average = Student completes assignments, and demonstrates a grasp of key creative and technical concepts. Student participates actively in the classroom.

C = 79 - 70% ~ Below Average = Student completes the assignment but may lack enthusiasm or drive to push the work into a detailed creative or critical space. The work lacks creative and aesthetic effort. The work is underdeveloped, incomplete or broken.

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.

Late Work Policy

Work is considered late if posted after the due date/time. The default time for submission of work is the beginning of class, unless specified otherwise in the schedule. For each day the work is late (marked each 24 hours by the day and time of original deadline), the work decreases by half a grade (a B+ goes to B-, a B- to a C+, etc.)

On Grading in the Arts

Grading is a process claimed to be objective. Yet there is, on the other end of that process an individual – the professor – with a subjective opinion that guides the grading process. As a university professor I do not believe in the use of subjective aesthetic judgment to grade artworks. What one person believes is beautiful, another person may perceive as abject. As such, although aesthetic opinions and critical discussion are a part of this course, the use of aesthetic opinion is never alone a metric for assessing the value of art.

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 located here ~ http://www.sjsu.edu/gup/syllabusinfo/

University Policy S16-9, states the following language must be included in this syllabus, "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."

Art 107 Course Schedule
Fall 2021

Note: Assignments are due on the day listed in the schedule, unless otherwise noted.
If you have any questions, contact the professor *in advance of the due date*.

Week	Date	Topics, Assignments, Deadlines
1	08/19	**Introductions, course overview, and survey + Q&A** *Assignment #1 is provided*
2	08/24	**Intro to worlds (worlds)** Software, tools, processes and techniques overview
	08/26	**2D worlds and images (redux)** Photography, Digital Video, Raster/ Vector, Generative & Realtime content creation and generation **Assignment #1/ Blog post due** = Online reading response v1.0
3	08/31	**3D space and objects in Blender I** Understand 3D software environments and agnostics
	09/02	**3D space and objects in Blender II** Create, alter, and manipulate 3D objects
4	09/07	**2D ~ > 3D space and objects in Blender III** Create 3D objects from 2D images **Assignment #2 due** = 3D models posted to https://hubs.mozilla.com
	09/09	**Sculpting 3D objects in Blender IV** Sculpting in 3D **Blog post due** = Online reading response v2.0
5	09/14	**Hubs/ Spoke Workshop** https://hubs.mozilla.com/spoke Mozilla Spoke development environment workshop
	09/16	**Blender/ Spoke/ 3D sculpting lab time** In-class breakout labs and technical support for Assignment #3
6	09/21	**3D Objects and Worlds + Mozilla Hubs using Spoke Review** Create navigable worlds in which to share your 3D models **Assignment #3 due** = 3D Objects and Worlds using Mozilla Spoke
	09/23	**3D Objects and Worlds + Mozilla Hubs using Spoke Review** Create navigable worlds in which to share your 3D models

Week	Date	Topics, Assignments, Deadlines
7	09/28	**Introduction to Photogrammetry** Introduction to techniques of - and software for - Photogrammetry 2D ~ > 3D Scanning, Point clouds, Editing & Viewing
	09/30	**Origins and Contemporary use cases for Photogrammetry** Exploring the origins and possibilities for capturing the real world **Blog post due** = Online reading response v3.0
8	10/05	**Photogrammetry Scanning and Editing II** Photoscanning real world objects Object, Person, Exterior, and Interior Subjects and Techniques
	10/07	**Photogrammetry Scanning and Editing III** Videogrammetry and AR scanning tools and techniques
9	10/12	**Photogrammetry Scanning and Editing IV** Model editing and publishing via https://sketchfab.com
	10/14	**Photogrammetry Project Presentation** **Assignment #4 due** = Final Photogrammetry Projects
10	10/19	**Intro to World Building in Unity** Creating worlds within worlds: metaverse musings
	10/21	**Dimensions in space and time in Unity** Environments, Textures, Lighting, Sound and VFX
11	10/26	**World Building in Unity** Creating worlds within worlds: metaverse musings
	10/28	**Dimensions in space and time in Unity** Environments, Textures, Lighting, Sound and VFX **Blog post due** = Online reading response v4.0
12	11/02	**Worlds in Unity I** Combining assets to create worlds (worlds)
	11/04	**Worlds in Unity II** Creating environments for immersive experiences in Unity
13	11/09	**Navigating Open 3D Space in Unity** Realtime navigation and exploration in Unity **Assignment #5 due** = Collaborative Group Proposal
	11/11	**Veterans Day Holiday** Class will not meet. Enjoy your holiday!

Week	Date	Topics, Assignments, Deadlines
14	11/16	**Unity Workshop and Lab III** World building in Unity through collaboration and skill sharing
	11/18	**Unity Workshop and Lab IV** World building in Unity through collaboration and skill sharing
15	11/23	**Final Collaborative Unity Project Lab V** Collaborative group work in lab on their worlds (worlds) **Assignment #6 due** = Collaborative Projects Beta Preview
	11/25	**Thanksgiving Holiday** Class will not meet. Enjoy your holiday!
16	11/30	**Final Collaborative Presentations I** Final presentation of collaborative group projects
	12/02	**Final Collaborative Presentations II** Final presentation of collaborative group projects **Assignment #7 due** = Collaborative Projects Final Presentations
Final Exam	12/08	**Final Exam** Wednesday, December 8th **Assignment #8 due** = Final Research Blogs v5.0
		Note: This schedule is subject to change. You will be notified of any changes in a timely manner in class and via Canvas. Any changes will not affect your ability to complete the above assigned coursework.

The end.