

**ACAD 207 Narratives in Technology and the
Human Experience**

Units: 4

Fall 2023

Mondays & Wednesdays - 6 to 8.20pm Pacific Time

Location: Iovine & Young Hall, Room 212/213

Instructor: Carsten Becker

Office: Zoom

Office Hours: As scheduled, or per Individual Request

Contact Info: Preferred communication channel is Slack

DM me in the **iya-becker.slack.com** workspace

For grades-related questions: carstenb@usc.edu

Allow up to 24 hours for replies to emails and messages.

Grader and/or Classroom Assistant/s: TBD

Office Hours (if applicable):

Contact Info:

IT Help:

<https://uscedu.sharepoint.com/sites/IYAStudent/SitePages/IT-Resources.aspx>

Hours of Service: 9 a.m. – 6 p.m.

Contact Info: iyahelp@usc.edu

*Experience is not what happens to you.
It is what you do with what happens to you.*

- Aldous Huxley

Course Fundamentals

The Acad-207 course focuses on three areas of designing to connect technology to human perception:

- 1) Methods to communicate new technology effectively (with words, visuals¹, simulations and sound)
- 2) Representing technology in real-world spaces (built environments, projection, augmented reality)²
- 3) Employing an array of maker skills for multimodal prototyping (in phygital or multi-spatial installs)

In the practice of a *creative technologist*, the three areas frequently intersect, calling for innovation, and often futurism. In a series of story & design ideation, investigative tech research and practical exercises, students expose new ways of engaging themselves and others with technology. They'll combine storytelling methods with next-level tech, all with a focus on interfacing with the human form.

¹ Visuals you'll create in this course may include 2d/3d design, photography, video and generative art

² in establishing relationships with the physical world we'll also practice 'invisible' tech like sensing and scanning

Learning Objectives and Outcomes

Acquire knowledge and skills and apply them in a challenge-based learning style.

Gain an understanding of the cognitive and behavioral processes involved in encountering and interacting with technology. Design with empathy, perspective, inclusivity, and humanistic and climate-positive goals.

Expand your creative thinking and maker skills. Through the challenge to communicate technology using new design methods you'll gain a deeper understanding of context that will diversify your approaches.

Practice developing more deeply connected human experiences as you employ the concepts of interactivity, perspective-taking, agency and co-creation.

Understand and practice an iterative process of making. Learn to prioritize and improve your time management skills to be efficient and iterate frequently.

Produce portfolio pieces that exemplify dialogue with technology, and high-fidelity prototyping.

Adaptive and Cumulative Skills

For most of the course, we will look for narrative potential in the aspects of concept, form, input/output, context, interaction and visual & auditory presence of technology. We'll employ tools in the function of *media* to create statements and speculation. Students then start combining modes in free exploration. The final phase is dedicated to shaping narratives via multimodal medium-fidelity prototypes.

No Prerequisites:

Prior knowledge of common design, technological and communication principles will be applicable in everything you make in this course. Completion of Iovine and Young Toolboxes, or otherwise acquired maker skills, 2d/3d design, and/or programming experience will be helpful (but aren't required).

Expectations

To get the most out of this course, a student will...

1. Engage with newly gained insights beyond the classroom. Be actively curious, try out new software and hardware related to our research, and share your experience with the group.
2. Follow-up on skill training during class with personal study. Finish work started in the classroom async and share with the instructor even if not prompted.
3. Bring a personal standpoint to your work in the course wherever you can.

What **you** can expect: Lots of new impressions, experiences to try out and build expert opinions on 🤔

Also, spending an average of 3 hours outside of class sessions for preparation, self-teaching, assignments, and project work. In weeks before projects are due, this may go up to 7 hours outside of class when working on projects.

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Recommended Reading

“Speculative Everything” by Anthony Dunne and Fiona Raby (MIT Press, 2013)

[Available as download from the USC Library](#)

“The Five Forces that Change Everything” (How tech might change our social fabric)
by Steven S. Hoffman (Ben Bella Books / Ascent Audio, 2021)

[Available as Audio Book from the USC Library](#)

also available as hard cover book (ISBN 9781953295040, \$26.99 at barnesandnoble.com)

On Video Technique:

“The Filmmaker’s Eye: Learning Cinematic Composition” by Gustavo Mercado (Focal Press)

[Available as download from the USC Library](#)

“Technique of Film and Video Editing” by Ken Dancyger (5th Edition, Focal Press 2014)

[Available as download from the USC Library](#)

On Audio in Interactive Spaces:

“Designing Interactions for Music and Sound” - Edited by Michael Filmowicz

[Available as download from the USC Library](#)

“Sonic Virtuality” by Mark Grisham and Tom Garner (2015)

[Available as a download from the USC Library](#)

Podcasts:

“The Future of Everything” by Stanford Engineering

Required Hardware

- **Laptop Computer** Mac: M1 or M2 chip (MacBook Pro with 16GB of RAM recommended) with min. 200GB of free hard drive space and Ventura 13.4 or newer installed

Windows: i7 processor or better with min. 200GB of free hard disk space, Windows 10 or 11 installed.
It is highly recommended for students with a Windows laptop to **also bring a recent iPad** (2020 or newer) as much software we use is Apple-centric

- **iPhone 11** or newer, or recent upper segment Android phone with 25% free storage

- **External Hard Drive** (minimum 1 TB – about \$60 on Amazon)

- **3-Button Mouse with Scroll Wheel** (USB-C mouse - about \$15 on Amazon)

In the process of the course, you will also need to...

- install required software **on your laptop**:

Various free creation software or trials, per instructor’s recommendation

Shapr3d (free with edu license), or another 3d program the student is already proficient in

Slack account

- install a variety of apps **on your phone** that may require setting up an account. This also requires...

An iTunes or Google Play account to download free mobile apps

- **1TB of free space** in your USC-managed Google Drive for safely storing your project files

Academy Equipment

We may utilize the Academy XR Lab’s, sound, video and lighting equipment. Ask your instructor or the Systems personnel for proper training in the setup and use of the equipment so you can utilize these tools confidently in exercises and projects. Not having spent the proper time to figure out their full use will not be accepted as a valid reason for delays in submitting your assignments.

Equipment that is returned late or broken may lead to delays or restrictions in your subsequent check-out.

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USC Technology Rental Program

The university realizes that attending classes online and completing coursework remotely requires access to technology that not all students possess. If you need resources to successfully participate in your classes, such as a laptop or internet hotspot, you may be eligible for the university's equipment rental program. To apply, please submit an [USC Technology Rental Program Application](#).

HOW TO PURCHASE OPTIONAL SOFTWARE AT THE DISCOUNTED ACADEMY:

For classes that require them, the following software are available for purchase **online** through the USC Iovine and Young software catalog at the Academy discounted rate:

Software	IYA Short-Term License at USC Bookstore
Adobe Creative Cloud	\$70 2022–2023 annual license
Apple Logic Pro	\$35 semester licenses
Apple Final Cut Pro	\$35 semester license

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 iyahelp@usc.edu.

Graded Components

	Points	% of Grade
Participation ¹	100	12.5
Exercises	120	13.5
Midterm	80	7.5
Final Prototype	100	12.5
Projects (Creativity & Build)	300	37.5
Final Presentation	100	12.5
TOTAL	800	100

¹ To receive an A in Participation, be a consistent contributor to discussion in the classroom and our whiteboarding sessions. Being responsive and contributive in our Slack channels also affects participation score.

Grade Scale

Course final grades will be determined using the following scale

A	94-100
A-	90-93
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	59 and below

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Assignment Submission Policy

All labs, projects and assignments are due at the date and time specified in the syllabus. Projects that are more than 24 hours late will receive a 50% deduction in points. Projects that are more than 7 days late will receive 0 points. Be sure to check Blackboard if you have to miss a class. You are responsible for any materials presented and assignments made even if you are not in class that day.

Graded Assignments Definitions

Exercises serve students' practice with new tools or methods. They will be graded for completion in the designated time, but not for design merit.

Your Midterm will be a 2-part paper, with Part 1 testing retention of concepts, and Part 2 a creative-technological prompt to write about from a personal view.

Lastly, **Projects** require and will be graded for thorough research, self-ideation, creative design, good time management and execution. You may be assigned a role within a team project. How you score in Projects contributes most heavily to your course grade.

Extensions

Every student in this course is allowed an extension on one of their assignments during the term. The above Assignment Submission Policy strictly applies to the extension date given.

Grading Timeline

You will receive your score in prompts, tests, projects, and all graded exercises within two weeks 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 $\frac{1}{3}$ 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. Additionally, students who need accommodations for religious observations should provide advanced notice to instructors and student athletes should provide Travel Request Letters. All accommodations remain at the discretion of the instructor, and appropriate documentation may be required.

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Spring 2023 addendum:

- Unless students provide an accommodation letter from USC's Office of Student Accessibility Services (OSAS) or a letter from IYA Student Services detailing visa or travel restrictions, attendance and active participation is expected in the classroom. Any student with such accommodations should submit their accommodation document to the instructor as soon as possible to discuss appropriate accommodations. Either classroom recordings or live remote access to the class via Zoom will be provided.
- Students who are experiencing illness should not attend class in person. Please inform the instructor in advance of any class sessions that you can't attend for medical reasons, and accommodations will be arranged to view recorded lectures and submit alternatives to any missed class participation. Students will not be penalized for not attending class in person under these circumstances.
- In the event that you find yourself experiencing COVID-19 related symptoms, in keeping with university recommendations, you should Stay home! This is the best way to prevent spreading COVID-19 as supported by scientific evidence; Please do not come to an in-person class if you are feeling ill, particularly if you are experiencing symptoms of COVID-19.

Iovine and Young Hall Cleanout

The Academy is unable to store student projects and materials beyond the end of the semester. Students must remove all projects and personal materials from the Creators Studio, lockers/locker room, and other classrooms by the end of each semester. **All projects and materials left in Iovine and Young Hall will be discarded two days after final exams end. No exceptions.**

Additional Policies

Should the needs of the class dictate, I reserve the right to modify the class schedule and assignments. Any substantive changes will be announced in class and posted in Blackboard and/or Slack.

Classroom Norms

Students are expected to actively engage with the subjects of the course outside of the classroom. Assigned papers should be informed by research beyond common knowledge. Your solutions to weekly prompts and your course project are expected to be fulfilled from a personal point of engaging your skills, possess thematic merit and relevance to your maker / portfolio goals. Furthermore, instructor expects all students to documenting your own learning process, take an active role in the success of the group through contributing to discussion in the classroom, sharing of ideas, voluntarily providing constructive feedback for your peers, and supporting each other as teammates.

To make the above possible, phones must be put away while in the classroom. Use of laptops is allowed only for tasks relating to our course. I recommend taking notes by pen in a notebook.

Synchronous session recording notice

I'll do my best to record lecture portions of our meetings. If you have to miss a class due to illness or isolating, you should find slides in Blackboard and you will have access to watch these recordings. But remember you are not permitted to share them with anyone not enrolled in the course.

SCampus Section 11.12(B)

Distribution or use of notes or recordings based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is a violation of the USC Student Conduct Code. This includes, but is not limited to, providing materials for distribution by services publishing class notes. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the Internet or via any other media. (See Section C.1 Class Notes Policy).

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Course Schedule: Weekly Breakdown

Notes: I reserve the right to alter the weekly topics and assignments if that creates a better learning flow.

Since we are studying the fast-moving field of creative tech, new reading tends to become relevant frequently, so I'll announce reading assignments in the classroom (aka they aren't included below).

Week 1

Course Introduction and Overview

Topic and Lecture/Discussion: Finding and creating narrative cues in products and technology

Do: Research the narrative connections in a breakthrough tech launch

Discussion: Great tech needs less explaining! Can communication be a key for reverse-engineering?

Ideate: Fictional encounter with technology in a hyper-sensory environment

Acquire skills: Audio recording equipment

Make: An audio essay (first assignment, not graded)

Week 2

Topic and Lecture: Communicating tech-driven concepts at depth

Case study: Spatial Computing – evolution, context, promise

Exercise: Chart the narrative of your audio essay in a creative form of your choice

Lecture/discussion: Infusing tech into the natural world

Design exploration: Presence, environment and lighting

Acquire skills: Storyboarding

Exercise: A storyboard for a video. Prompt: Turn a process of creation into a story plot!

Week 3 (no class on Monday)

Topic: The creative tech documentarian's tools

Visit: The XR Lab and peek at lovine and Young's camera and lighting gear

Acquire skills: Videography – staging, lensing, framing and movement

Exercise: Sourcing a form factor that is visually communicative

Week 4

Topic: Storytelling in video – what to show and what to evoke

Acquire skills: Video editing (Adobe Premiere)

Exercise: Edit your *Process-as-Plot* video project

Lecture/discussion: Sensory immersion, and how do we design from human senses outward

Do: Edit your *Process-as-Plot* video project

Collaborative exploration of video and audio expression

Localizing sound

Week 5

Connecting our physical and data worlds: Intro to Augmented Reality (AR)

Lecture & Discussion: Can interaction foster better agency with products and technology?

Read: Concepts and components that make AR immersive with our world

Lecture: Sensing and Scanning - quiet tech that breaks spatial barriers

Exercise: Scan a product using LiDAR and AI, then bring it into AR

Week 6

Topic: Communicating with technology with gaze and gestures

Lecture/discussion: Comparing temporal <> experiential media

Exercise: An AR tracker of human reaction (you'll be given an existing AR scene to alter)

**We will also peek at the course topics and opportunities in Acad-217 here, a course you may be interested to take next.*

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Week 7

Soundscapes and Sound Volumes

Exercise: Explore sound design software (app options tbd)

Make: A localized Sound Design Project around technology.

Midterm

Week 8

Topic: Touch and Haptics

Lecture: Wearables and body computing. Sensory immersion with technology.

Ideate: A wearable or portable device that uses sensing of human activity.

Exercise: Storyboard and design the device, connecting human senses.

Week 9

Topics: Design language for affordances, discovery and affirmation

Reciprocity in tech experiences

Lecture/discussion: Importance of UI for narrative

Lecture/discussion: Infusing tech into the natural world

Do: Find examples of world-scale tech in natural environments.

What's their narrative?

Week 10

Topic: Built environments for product, art and social experiences

Lecture: Sensing Pt2 - Physical design components for immersive experiences that integrate location, geography, tangible objects and visitors.

Acquire skills: Exploring design with a projection mapping tool (Touch Designer or Mad Mapper)

Make: A series of design sketches for a projection mapping experience communicating technology.

Week 11

Topic: Projection Mapping

Do: A full build of your Projection Mapping Project

**We will also peek at the course topics and opportunities in Acad-281 here, a course you may be interested to take next.*

Do: Plan your final Project that is multimodal (we will define what that can look like)

Week 12

Pitch and Plan: Your Multimodal Project in all of its aspects and needs.

The remainder of the week is dedicated to advancing all aspects including modeling, 3d-printing, designing interactions, and programming software (depending on your concept).

Week 13

This week is dedicated to advancing all aspects of your multimodal prototype.

There will be two mandatory reviews of progress.

Week 14 (no class on Wednesday)

Final Project Lab Time & Feedback Rounds

Async: Advance your team's project

Week 15

Address final round of feedback on Prototypes

Rehearsal of presenting your prototypes for the day of Final

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I will do my best to align industry guest visits or a field trip to a relevant site as schedules allow. Dates TBA!

Important dates: September 4 – No Class (Labor Day)
November 22 – No Class (Thanksgiving)
November 29 – Last regular class
December 6, 7pm – Official time slot for Final
We'll discuss the final presentations format with ample lead time.

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 [Research and Scholarship Misconduct](#).

Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University's educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call
studenthealth.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), press "0" after hours – 24/7 on call
Studenthealth.usc.edu/sexual-assault

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Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office for Equity, Equal Opportunity, and Title IX (EEO-TIX) - (213) 740-5086

eeotix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298

usc-advocate.symplicity.com/care_report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

The Office of Student Accessibility Services (OSAS) - (213) 740-0776

osas.usc.edu

OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

USC Campus Support and Intervention - (213) 821-4710

campussupport.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity, Equity and Inclusion - (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.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)

ombuds.usc.edu

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

Occupational Therapy Faculty Practice - (323) 442-3340 or otfp@med.usc.edu

chan.usc.edu/otfp

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.