

**ACAD-307: Multimedia for Designers and
Entrepreneurs II**
Units: 4
Spring 2020 Mondays & Wednesdays - 5 to 7.50pm

Location: IYH 107

Instructor: Carsten Becker

Office: Slack or Zoom.

Office Hours: tbd

Contact Info: carstenb@usc.edu

Slack: iya-becker.slack.com

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://iovine-young.usc.edu/ait/index.html>

Hours of Service: 8:30am - 5:00pm

Contact Info: iyhelp@usc.edu, 213-821-6917

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

- Aldous Huxley

Course Description

Designing effective and compelling multimedia experiences, including through the application of intermediate tools and techniques related to state-of-the-art creative hardware and software.

Building on foundational skills learned in ACAD 207, students will expand their knowledge into Augmented and Virtual Reality platforms to create in multimedia landscapes without bounds. Students will create and learn in Iovine and Young Hall's new Mixed Reality Studio, which boasts capabilities in audio, video and photo, as well as state-of-the-art motion capture.

Key Learning Objectives

1. Understand the potential of immersive media in the launch, presentation, user engagement and/or marketing of a product or service.
2. The experience itself can be the product.

Detailed Objectives and Outcomes

1. Use strategy, writing and production tools to create compelling content that educates or promotes business goals in effective communications.
2. Learn hardware and software applications for designing, acquiring, editing, and programming audio-visual experiences, both one-directional and immersive.
3. Exercise planning, teamwork and collaboration as part of the media creation process.
4. Use elements of storytelling for brand- and presentation-focused communications.
5. Create work that adds to your portfolio in meaningful ways.

Specific Skills to be Covered:

- Creation of visual assets (Adobe Creative Cloud, photography, 3d software of choice)
- Understanding technical pipelines in virtual production
- Intermediate use of tools for Augmented Reality, 360 Video, VR, and the Unity game engine
- Practicing a productive creative process
- Fulfill various roles in a production team and together strive for success
- Regularly exercise group critique
- Documenting the process and outcome of your projects (in the form of video)

Expectations

To master this course, student needs to...

1. Develop a solid understanding of different immersive media: Augmented Reality, 360 Video, Virtual Reality, the tech that make these possible and the current status and success of these media forms.
2. Acquire and demonstrate the software skills for building XR experiences. Employ various forms of immersive media to create adequate applications.
3. Apply and expand your skills in video/audio techniques and storytelling to pitch and later document your projects.
4. Define purpose and alignment for the immersive media applications you build in relation to a product, business or research you are pursuing.
5. Create immersive experiences that engage an audience/users in discovery and compels them to act.

Prerequisites:

One term of a foundational narrative course in traditional or immersive media, ACAD-207 Multimedia for Designers and Entrepreneurs I, or equivalent.

Hands-on experience in videography and a working knowledge video non-linear editing software, preferably Final Cut Pro-X or Premiere Pro.

General understanding of 3d concepts and interaction models.

Recommended Preparation:

- 1) Refresh your proficiency in audio, video recording and editing skills
- 2) Familiarize yourself if needed with the concepts of augmented reality, user experience and immersive experiences (projection mapping, 360 video, virtual reality)
- 3) Proficiency in either Apple Keynote or Adobe InDesign for creating visual presentations of your concepts

Nature of this Course

This is a fast-paced course which will immerse students in a range of media tools. Through lecture and practice, they will become the authors, designers, deployers and documentarians of media forms that create meaningful communications and user interaction. Assignments are based on narrative and interactive concepts that deepen and expand existing skills in media creation.

Student responsibilities: Students need to develop their project goals and execution on a base of research, thematic merit and relevance to their career goals. Furthermore I expect everyone to take an active role in the success of the full group through discussion in the classroom, sharing of ideas, actively providing constructive feedback for your peers, observing your own learning process and taking initiative in everyone's growth as media-savvy makers.

Required Hardware/Software

Students must have access to the following:

On day 1 of instruction:

- **Laptop Computer** with authorized installs of the following software:
 - Apple Keynote (free) to create presentations (can use InDesign if preferred)
 - Adobe Creative Cloud (If you do not already have an Adobe CC account, you will need to purchase it through the online bookstore and the Academy will set up an account for you (see below)
 - Apple Xcode 11 (requires MacOs 10.14.6 or later)
 - iTunes or Google Play account to download free AR Creation software
- at least one **external hard drive** for safely storing/backing up all media
- Each student needs to purchase **one highspeed SDXC card** for the use in cameras and audio equipment. I will share the preferred type of cards.
- **Headphones** to use with your laptop. Over-ear / closed type only (no ear buds) so you can listen without disturbing others. Some recommended models: Audio Technica ATH-M50x, Sony MDR-7506 or equivalent

As the course progresses, I will announce other software necessary for work in labs and projects such as

- 3d photo stitching app (free or trial)
- Adobe Mixamo and Fuse (free), can be substituted with a 3d software package you are familiar with
- Unity Game Engine (free)

Academy Equipment

We will utilize the Academy's sMixed Reality Lab and sound, video and lighting equipment to create audio and video content. You'll receive proper training in the use of the equipment so you can use these tools confidently in your labs and projects. In order to check out valuable equipment you will need to acquire certification.

Software Proficiencies

We will use Adobe Creative Cloud apps and 3d software to create, edit and compile assets to appear in the experiences created in Projects. For editing video content, students may choose FCP-X or Premiere Pro. And for facilitating realtime experiences we will use a tbd game engine and AR software. Additional software may occur based on the student's choice of technique to their vision.

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Recommended Readings and Supplementary Materials

Books:

“Follow the Feeling: Brand-building in a Noisy World” by Kai D. Wright

“The VR Book: Human-Centered Design for Virtual Reality” by Jason Jerald

Blogs:

<https://usdzshare.com/>

<https://vr-tigers.com>

<https://ngrp.github.io/FabriqueMobile/>

blogs.unity3d.com

I may publish additional recommended readings throughout the term as it relates to the individual areas of study and topics we touch upon.

Assessments and Assignments

Quizzes recall important concepts and terminology in media production. Mix of multiple-choice, blanks and text answers.

Lab Exercises will test your practical skills e.g. developing a concept book, creating a simple AR experience, recording video to present your concept, filming a product to implement in augmented reality etc.

Your **Midterm Exam** is a 2-hour-long in-class application of acquired skills.

The following **Projects** are the core portfolio pieces generated in this course:

In **Project 1** you will develop an augmented reality experience that lets people discover your brand or entrepreneurial endeavors in playful but also informative ways.

In **Project 2** you will employ the video and immersive media tools you now use with confidence to create a VR or elaborate AR experience. The piece must highlight the effects or benefits of a product or service or the study of a meaningful subject. If Motion Capture is a component you’d like to include, you will also have opportunity to write and execute a treatment for a sports, health, robotics or entertainment product.

Project 2 should be a more complex immersive production, but an exception is possible for a film about the science, practice or economics of virtual production containing meaningful discourse with samples. The exception will be at the instructor’s discretion.

Grading Breakdown

Assignment	Points	% of Grade
Quizzes	65	10
Labs	150	20
Final Exam	65	10
Project 1	120	18.5
Project 2 - Group Grade*	250	38.5
*Individual contribution recognized via multiplier		
TOTAL	650	100

A note on grading of Projects: Each student is expected to support each other’s projects with contributions such as design, programming and logistics. Hence a grade for your own project, and one as Collaborator. Feedback on your contributions to other students’ projects may be gathered through a mutual peer evaluation survey.

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Grading Scale (Example)

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

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.

Extensions

Each student may ask for an extension on one of her/his assignments. Above Assignment Submission Policy strictly applies to the extension date given.

Grading Timeline

You will receive grades for classroom quizzes, check-ins, labs, projects and other assignments 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 $\frac{1}{2}$ 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.

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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.

HOW TO PURCHASE SOFTWARE AT THE DISCOUNTED ACADEMY RATE THROUGH THE USC BOOKSTORE:

The following first year software are now available for purchase **online** through the USC Bookstore at the Academy discounted rate:

<u>Software</u>	<u>IYA Short-Term License at USC Bookstore</u>
Adobe Creative Cloud	\$70 2019-2020 annual license

1. Visit the USC Bookstore online:
<https://www.uscbookstore.com/usciasoftware>
2. Select the software license(s) you would like to purchase.
3. When you proceed to checkout, add the Promo Code "IYASoftware" (This will override the listed taxes).
4. For shipping, select FedEx Home Delivery (free).
5. Once you complete your online purchase, you will receive a confirmation email/receipt.
(Note that even if a shipping charge appears on your invoice, it will not be charged to your credit card. This relates to a known technical problem with the Bookstore's online store.)
6. Upload your receipt [here](#) to receive access to your purchased license.
7. You will be notified by email when the license has been activated

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Weekly Class Schedule

Note: This course is evolving. We will cover this content, but schedule changes may be necessary to optimize course's progress and outcomes.

	Topics/Activities	Testing and Critiques	Assignments (to be done outside of class time)
Week 1	<p>Introductions</p> <p>Structure of IYA MM courses</p> <p>Tour of IYA's media facilities</p> <p>Immersive Responsive</p> <p>From A- to XR: Creative tools in which customers & clients can experience and interact with your brand. We'll look at current B2C apps. Vs. use in social.</p> <p>Create a simple AR experience</p>	<p>Refresh your sound and video editing skills</p>	<p>Students needing refresh on Zoom recorder and/or IYA video cameras may request training lab</p> <p>Shoot video portrait.</p>
Week 2	<p><i>Monday: No Class/MLK</i></p> <p>AR Practice: Purpose-built location-based and marker based applications</p> <p>AR Frameworks: ARkit, ARcore etc.</p> <p>Xcode and Reality Composer</p> <p>Media Project Planning (look at PrePro Books from Acad207)</p>		<p>Lab Exercise: Edit video portrait, use dialogue and create a unique representation</p> <p>Assign Proj.1: AR Brand Experience</p>
Week 3	<p>Narrative concepts in XR and providing feedback channels for users</p> <p>Lab: Creating assets for AR</p> <p>Lab Exercise: Photogrammetry + Lighting Products</p>		<p>Proj.1 Concept Book due.</p> <p>Assign Goals & Walkthrough Video with audio testimonials</p>
Week 4	<p>AR experience creation + testing</p> <p>Assets fine-tuning/post production</p> <p>Deploying AR experiences - invite other students and document with video.</p>	<p>Quiz 1</p>	<p>AR Concept Video due</p>
Week 5	<p>Monday: Class postponed to 2/21</p> <p>Wednesday: Review Project 1 Progress</p>	<p>Project 1 Group Crit</p>	
Week 6	<p><i>Monday: No Class/Presidents Day</i></p> <p>Lab Exercise: Shoot a 360 Video with our Vuze cameras</p> <p>Planning interaction in VR</p> <p>Speaker Event: Guest Speaker (open to all IYA students)</p>		<p>Proejct 1 (AR) due, complete and with documentation</p>

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Week 7	360 Video: Deploying 360 experiences - invite other students. VR Tools: Planning a responsive environment for <i>full immersion</i>		Optional build of virtual 360 environment.
Week 8	Motion Capture Primer Walkthrough of the MoCap Process. Use Cases: Biomechanics, Training, Robotics, UX Research, Games Speaker Event: Guest Speaker (open to all IYA students)	Quiz 2	
Week 9	Unity real-time engine for immersive experiences		Game Engine self-study for everyone
Spring Recess	No classes		
Week 10	MoCap Tools: Planning out space and performer interaction with environment Directing Talent MoCap Shoot OR Film Storyboarding		Each student chooses her/his Project 2 topic and type(s) of experience
Week 11	MoCap Postprod.: Character Retargeting and Skinning (Mixamo or other 3d package) Edit MoCap data Customizing 3d environment		PrePro Book for Project 2 due Students choosing VR or MoCap build 3d environment. Students choosing AR or Film source assets and/or on-screen talent
Week 12	Project-based Unity development OR Film Shoots	Quiz 3	Continue Wk 11 activities
Week 13	Building interaction of performer in 3d environment OR Film Shoots Speaker Event: Guest Speaker (open to all IYA students)		
Week 14	Experience Build OR Post Production		
Week 15	Experience Run-Throughs OR Post Production	Project 2 Group Crit	Project 2 Rollout/Documentation
Finals Week	Summer Media Show	Final Exam	

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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

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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/ssu

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.