



Course: CTPR 499: Virtual Production in LED Volumes

Units: 2

Prerequisites: CTPR 445 (Realtime CG Filmmaking) or CTIN 499 (Special Topics - Real Time Cinematic Production) or CTPR 446 (Virtual Production)

Term—Day—Time: Fall 2023 - Tuesday 9 - 12:50 PM

Location: RZC STG D

Instructors: Emre Okten, Chris Chomyn, Ross Silverman, Nancy Forner, Jose Angel Santana, Leon Cruz

Teaching Assistant:

Contact Info:

Course Description

This course is an introduction to working in LED volumes using game engine technology. Through 4 creative exercises that feature different filming situations, students will experience the breadth and potential of using realtime virtual backgrounds. With 20 students broken into 4 groups of 5, each group will assume creative responsibility for one of the exercises; writing the script or treatment, sourcing actors and props, editing the footage into a 1-5 minute short film. Mimicking a production team, they will have the opportunity to specialize in areas of directing, production design, cinematography, editing and virtual production, and these areas will be reflected in the makeup of the faculty, who will guide students with their specific expertise. Each exercise will take 3 weeks, and while the responsible group is creating and producing the shoot for their predetermined virtual environment, the rest of the students will help them execute. Last 2 weeks of the class will be dedicated to reshoots, where each group will have 2 hours to film shots for their project.

Learning Objectives

- Become familiar with using virtual backgrounds to aid the storytelling process
- Be able to determine when LED volumes are preferable to traditional methods of VFX
- Utilize game engine tools to previsualize and prepare a volume shoot
- Seamlessly integrate virtual background with live action elements of the production
- Learn the extent to which virtual backgrounds can be adjusted on the fly to aid creative choices in blocking and lighting

In Class Exercises

Each group of students will be assigned to one of the categories below and they will perform their in class shoot with a virtual background and an accompanying set on stage that fits into the category.

- Vehicle (car/plane/train/bike)
- Urban interior/exterior (office/skyscraper roof)
- Nature interior/exterior (cave/desert)
- Space (spaceship)

Labs

There will be extra Friday lab sessions (time pending on room availability) concentrated to the beginning of the semester. These sessions will bring students up to speed on the technical knowledge they will need for the class. Main topics to be covered are post workflows, camera operation, virtual art department and previs using game engines.

Course Schedule

Lectures will revolve around in class exercises, instruction focusing on each virtual environment and integrating the physical set with the virtual background with clever use of filmmaking techniques. There will be 2 classes of prep and 1 class of filming for each exercise, here is an example schedule:

PREP WEEK 1	9:00-10:15	Directing (World Building & The Given Circumstances of the scene)
	10:30-12:45	Virtual Pro. + Production Design
PREP WEEK 2	9:00-10:15	Editing Aesthetics, Previs & First Assembly Review
	10:30-12:45	Virtual Pro. + Cinematography
SHOOT WEEK	FILMING	

Students will be required to send instructors a pitch deck **by end of day Friday** the week prior to the start of their prep and present their pitch to class at the first week of their prep. On the 2nd week of their prep, they are required to present storyboards or previs for their shoot.

Date	GROUP 1	GROUP 2	GROUP 3	GROUP 4	—
Week 1	EMAIL PITCH				
Week 2	PREP 1				
Week 3	PREP 2				
Week 4	SHOOT	EMAIL PITCH			
Week 5		PREP 1			
Week 6	First Assembly	PREP 2			
Week 7		SHOOT	EMAIL PITCH		
Week 8			PREP 1		
Week 9		First Assembly	PREP 2		
Week 10			SHOOT	EMAIL PITCH	
Week 11				PREP 1	
Week 12			First Assembly	PREP 2	
Week 13				SHOOT	
Week 14				First Assembly	RESHOOT 1
Week 15					RESHOOT 2
FINAL	FINAL FILM	FINAL FILM	FINAL FILM	FINAL FILM	FINAL FILM

Week 1

[08/22] LECTURE Introduction to the class. Short demo of the LED volume and the differences between a static backing and a realtime background.

Week 2:

[08/29] LECTURE Group 1 pitches their idea to the class. Directing and production design prep for Group 1.

Week 3:

[09/05] LECTURE Group 1 presents their previs to the class. Editing and cinematography prep for Group 1.

Week 4:

[09/12] LECTURE Group 1 films their exercise.

Week 5:

[09/19] LECTURE Group 2 pitches their idea to the class. Directing and production design prep for Group 2.

Week 6:

[09/26] LECTURE Group 1 presents their rough cut. Group 2 presents their previs. Editing and cinematography prep for Group 2.

Week 7:

[10/03] LECTURE Group 2 films their exercise.

Week 8:

[10/10] LECTURE Group 3 pitches their idea to the class. Directing and production design prep for Group 3.

Week 9:

[10/17] LECTURE Group 2 presents their rough cut. Group 3 presents their previs. Editing and cinematography prep for Group 3.

Week 10:

[10/24] LECTURE Group 3 films their exercise.

Week 11:

[10/31] LECTURE Group 4 pitches their idea to the class. Directing and production design prep for Group 4.

Week 12:

[11/07] LECTURE Group 3 presents their rough cut. Group 4 presents their previs. Editing and cinematography prep for Group 4.

Week 13:

[11/14] LECTURE Group 4 films their exercise.

Week 14:

[11/21] LECTURE Group 4 presents their rough cut. Group 1 and 2 each get 2 hours for reshoots.

Week 15:

[11/28] LECTURE Group 3 and 4 each get 2 hours for reshoots.

[] FINAL

Presentation of the completed final projects.

Description and Assessment of Assignments

Each group will be evaluated on the preparation and execution of their in class exercise as well as their participation in their classmates' shoots. They will also take the exercise they have filmed through post production, enhance their footage with the use of editing and sound design, presenting a 1-5 minute final short scene as the end result.

Grading Breakdown

Assignment	% of Grade
In Class Exercise:	55
• Directing & Editing Prep	15
• Cinematography & Production Design Prep	15
• In Class Filming	25
Final Film	30
In Class Participation	15
Total	100

Statement on Academic Conduct and Support Systems

Academic Integrity:

The University of Southern California is a learning community committed to developing successful scholars and researchers dedicated to the pursuit of knowledge and the dissemination of ideas. Academic misconduct, which includes any act of dishonesty in the production or submission of academic work, comprises the integrity of the person who commits the act and can impugn the perceived integrity of the entire university community. It stands in opposition to the university's mission to research, educate, and contribute productively to our community and the world.

All students are expected to submit assignments that represent their own original work, and that have been prepared specifically for the course or section for which they have been submitted. You may not submit work written by others or "recycle" work prepared for other courses without obtaining written permission from the instructor(s).

Other violations of academic integrity include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), collusion, knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.

The impact of academic dishonesty is far-reaching and is considered a serious offense against the university. All incidences of academic misconduct will be reported to the Office of Academic Integrity and could result in outcomes such as failure on the assignment, failure in the course, suspension, or even expulsion from the university.

For more information about academic integrity see [the student handbook](#) or the [Office of Academic Integrity's website](#), and university policies on [Research and Scholarship Misconduct](#).

Please ask your instructor if you are unsure what constitutes unauthorized assistance on an exam or assignment, or what information requires citation and/or attribution.

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

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

[988 Suicide and Crisis Lifeline](#) - 988 for both calls and text messages – 24/7 on call

The 988 Suicide and Crisis Lifeline (formerly known as the National Suicide Prevention Lifeline) provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week, across the United States. The Lifeline is comprised of a national network of over 200 local

crisis centers, combining custom local care and resources with national standards and best practices. The new, shorter phone number makes it easier for people to remember and access mental health crisis services (though the previous 1 (800) 273-8255 number will continue to function indefinitely) and represents a continued commitment to those in crisis.

[Relationship and Sexual Violence Prevention Services \(RSVP\)](#) - (213) 740-9355(WELL) – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

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

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

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 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) 740-0411

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

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

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) 442-1200 – 24/7 on call

Non-emergency assistance or information.

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

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) 442-2850 or otfp@med.usc.edu

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