

CTAN-432 The World of Visual Effects

Spring Semester 2019 Syllabus

Thurs 4:30PM – 7:20PM

SCB 104

Units: 2

Craig Barron

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Office Hours: Wed 7:45am to 9:45am.

Friday 7:45am to 9:45am by appt.

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This course will explore the traditions and artistry of visual effects (VFX) with particular emphasis on the indispensable nature of VFX in past, present, and future movie storytelling. We will examine the creative VFX problem solving process that has, and continues to be, a vital part of cinema. From the earliest motion picture work of magician Georges Melies (who arguably helped introduce storytelling to movies), through the “trick shot” artists of early Hollywood, on to the modern “wizards” hailed for conjuring the visions of the modern blockbuster. We will proceed as the weeks go by to view and discuss specific shots, scenes and entire films, looking to consider their achievements both technically and dramatically.

Based on film clips viewed in class, students will be asked to present their assumptions and guesses as to how the VFX work being considered were done, how they might have accomplished these shots/scenes, and how effective (or not) the work was in enhancing the film. From this, we will discuss how the shots/scenes were actually accomplished and the reasons for the techniques used to reach the final result.

Each week there will be reading and viewing assignments. Students may be asked to discuss what we are reading and viewing during class. Please consult the following class schedule for more specific information. For some sessions we will have guest lecturers, people I have worked with in the industry, who will bring clips of their work to talk about.

Our class discussions will be directed toward the final exam, where students will be assigned specific films to analyze. These exams will cover technical, as well as dramatic issues, but always with a focus on how visual effects were done and how they helped the filmmakers tell new stories. In the end, it is my goal that each student comes away with an understanding of how visual effects are forever tied to the mystery of film itself, how the medium works and its enduring power to beguile and enchant.

Your Final Grade is Based On:

Enthusiastic Attendance
Reading and Viewing of Assignments
Dedicated and Heartfelt Discussion and Participation in Class/ Artfully Crafted
and Wonderfully Perceptive Written Work.
A Sense of Humor.

As percentages:

Class Participation –15%

Homework – 35%

Mid-term – 25%

Final Exam – 25%

Missing homework or assigned projects will not be excused without documented medical or personal emergencies. A late assignment may not be accepted. There are no *unexcused absences* - you need to document explanations of absences for which you want to be excused. You will receive a reduction of one-third letter grade for each unexcused absence.

Tardiness will not be tolerated, as there is simply too much that needs to be accomplished. There will be one “official” warning for tardiness, and then we will lower grades by one-third letter grade each occurrence.

Suggested Reading:

VES Handbook of Visual Effects, Visual Effects Society - Focal Press, 2010 Edited by Jeffrey A. Okun, Susan Zwerman. I recommend you purchase at www.amazon.com, as they seem to have the best price.

The Parade's Gone By
by Kevin Brownlow University of California Press ISBN-10: 0520030680

Special Effects – The History and Technique
Richard Rickitt Aurum Press, 2006

An Animated Life – Ray Harryhausen ISBN 10: 0712349197
Melies: Magie et cinema – Malthete & Mannoni (editors)
ISBN 10: 2879005981

And: Cinefex Magazine: <http://www.cinefex.com>

Course Outline:

Jan. 10, Week – 1 VFX Pioneers – introduction of VFX Techniques.

Genesis: early methods and creators of cinematic illusions are discussed. Illusionist, Georges Melies. Variable frame rates, Glass Shots, Hanging Miniatures and split screens. Machine Age technology that would power the cinematic art form for nearly a century.

Visual materials to cover in class:

1. Hollywood the Pioneers Episode 11 "The Trick of the Light."
2. "Safety Last" clock shot.
- 3 Glass shots – Chaplin etc.
- 4 Hanging Miniatures – "Ben Hur" (1927).

Homework: watch the film "Hugo."

Lab: in class: see the Bell & Howell 2709 Camera – touch 35mm film.

Jan. 17, Week – 2 Continue introduction of VFX techniques and shot design.

Visual materials to cover in class:

1. Rear Projection at MGM – "Tarzan" – Africa on a sound stage in Culver City.
2. Traveling matte methods black and white - Williams' process, Dunning shots, "Sunrise clip."
3. Eugen Schüfftan technique – "Metropolis."
4. Front Projection "2001: A Space Odyssey."
5. Blue Screen photo chemical – "The Thief of Baghdad"
6. Blue and Green screen digital.

Quiz: show clip from "The Wizard of Oz" –students turn in paper at end of class.

Part 1, Lecture on "Hugo" – VFX shot design development and improvement.

Homework: Ask students to bring an example of a VFX shot from early cinema up to the 1950's for discussion in next class.

Jan. 24, Week – 3 Complete last week's lecture part 2 on shot development and improvement. Review first examples of an Academy Award given for visual effects, class discussion on VFX nominees for 1939.

Visual materials to cover in class:

1. Show clips from each 1939 nominee- "The Rains Came," "Gone with the Wind," "Only Angels Have Wings," "The Private Lives of Elizabeth," "Topper Takes a Trip," "Union Pacific" and "The Wizard of Oz."

Lab: Analysis, did the shot successfully advance the narrative of the film? Was the illusion effective? What worked about the image and what didn't work? How could it have been more effective?

Homework: Appraise effectiveness of each VFX nominee and pick your winner. Do internet research on stop motion animator Ray Harryhausen for week-4 class.

Jan. 31, Week – 4 “Here Be Monsters” – mechanical, puppets, stop motion and CGI.

Visual materials to cover:

1. “Die Nibelungen” - mechanical dragon.
2. “King Kong” – stop motion animation.
3. “The Thief of Baghdad” – multi-armed toy.
4. Ray Harryhausen montage of his work.
5. “Golden Voyage of Sinbad” – Kali.
6. “Jurassic Park” – mechanical dinosaurs, CGI. Transition from stop motion to CGI dinosaurs.
7. “Lord of the Rings” – Balrogs fire creature CGI.

Homework: watch the movie “Citizen Kane.”

Lab: Review Homework with class – read through student response 1939 Academy Awards.

Feb. 7, Week – 5 Linwood Dunn, Visual Effects Pioneer, his studio Film Effects of Hollywood. Development of Optical Printer effects. Snow effects in cinema, origins and contemporary usage.

Visual materials to cover:

1. “Citizen Kane” new ways to tell stories with VFX.
2. “West Side Story” making optical transitions.
3. “It’s a Mad Mad Mad Mad World”
4. “It’s a Wonderful Life” let it snow, let it snow, let it snow.

Homework: Watch “The Curious Case of Benjamin Button”

**Feb. 14, Week - 6 Discussion of Mid-term Exam.
Creating performances with VFX – Actors on split screen and CGI humans.
The Uncanny Valley.**

Visual materials to cover:

1. “Phantom of the Opera” Lon Chaney’s make up box.
2. “The Prisoner of Zenda” – split screening, the actor plays two parts.
3. “Curious Case of Benjamin Button” – CGI human and digital make-up.
4. “Tron: Legacy” – less successful, why?

Homework: Read "The Invisible Art: the Legends of Movie Matte Painting" – pages on Norman Dawn, Al Whitlock, Peter Ellenshaw and Matthew Yuricich.
Note: pages from book given out in class.

Feb. 21, Week – 7 The Invisible Art. Lecture on matte painting artists– Al Whitlock, Peter Ellenshaw and Mathew Yuricich.

Visual materials to cover in class:

1. Documentary on Peter Ellenshaw
2. "Darby O'Gill and the Little People" what is mixed scale VFX?
3. "Twenty Thousand Leagues Under the Sea" the undersea boat.
4. Al Whitlock montage
5. "Zodiac" – San Francisco waterfront.
6. "CCBB" – train station and backwards running clock.

Lab: matte painting on display.

Feb. 28, Week – 8 Mid-Term Exam.

Alien Apocalypse. Lecture on "War of the Worlds" 1953 verses "War of the Worlds" 2005. VFX in the vocabulary of film, past and present – how VFX shots are edited in a dramatic sequence

Visual materials to cover in class:

1. Miniatures and environments for the original "WOTW" film
2. Design process for remake "WOTW" film
3. Sequence from "Raiders of the Lost Ark" vs. "Indiana Jones and the Kingdom of the Crystal Skull."

Homework: If next week's guest speaker is known have students do Internet research.

Mar. 7, Week – 9 Guest Lecture - A prominent Visual Effects Supervisor discusses techniques – artistic technical and political solutions used to creating VFX on a recent film or project.

Visual materials to cover in class from guest speaker.

-----Spring Recess-----

Mar. 22, Week – 10 2nd Guest Lecture- A prominent Visual Effects Producer – Discussions on large-scale VFX productions.

Visual materials to cover in class:

Depending on guest speaker

Homework: Ask students to bring example of a VFX shot from 1950 to 1990 for discussion at next class.

Mar. 28, Week – 11 Contemporary CGI techniques in visual effects.

Visual materials to cover:

1. "The Matrix" – bullet time effect and its past and future iterations.
2. A brief history of computers in VFX.
3. Global illumination techniques.
4. Motion Capture performances.

Lab: Discusses Student picks from homework assignment VFX shot from 1950 to 1990 – Analysis.

Apr. 4, Week – 12 Lecture on visual effect using "found" stock footage.

Discussion regarding Final Exam.

Visual materials to cover:

1. "12 O'Clock High" – early use of stock footage in VFX.
2. "Zelig"
3. "Forrest Gump"
4. Stock Footage demo: "Hemingway & Gellhorn"

Homework: ask students to bring example of VFX shot from 1990 to 2014 for discussion at next class.

Apr. 11, Week – 13 Aviation VFX in Cinema – real aircraft, miniature and CGI.

Visual materials to cover:

1. "The Dawn Patrol" - Dunning shots.
2. "Chain Lightning" – miniatures 1950 style at Warner Bros.
3. "The Right Stuff" – miniatures on wires photographed outdoors.
4. "The Aviator" – radio controlled miniatures that fly – end of an era.
5. "Red Tails" – CGI.
6. "Flight" – CGI.

Lab: Discuss student picks from homework assignment VFX shot from 1990 to 2014 – Analysis.

Apr. 18, Week – 14 To infinity and beyond - VFX in outer space.

Visual materials to cover:

1. "Woman in the Moon" Miniatures.
2. "Things to Come" Hanging Miniatures.
3. "Forbidden Planet" Outer space on a soundstage.
4. "Star Wars" Motion Control.
5. "Gravity" Redefining how films will be made in the future?
6. "Interstellar" Re-confirming traditional techniques?

Apr. 25, Week – 15 The Future of VFX = the Future of Cinema?

Visual materials to cover:

1. “Avatar”, “Jungle Book”, Virtual Cinema.
2. Exploration into new presentation technologies and formats.

Study Days are: April 27 - April 30

Final Date: May 2, Thursday 4:30pm-6:30pm

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.

Student Health Leave Coordinator – 213-821-4710

Located in the USC Support and Advocacy office, the Health Leave Coordinator processes requests for health leaves of absence and advocates for students taking such leaves when needed.

<https://policy.usc.edu/student-health-leave-absence/>

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) 740-4900 – 24/7 on call

engemannshc.usc.edu/rsvp

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

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.

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
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/sssa
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.

Diversity and Inclusion:
Diversity and Inclusion are foundational to the SCA community. We are committed to fostering a welcoming and supportive environment where

students of all identities and backgrounds can flourish. The classroom should be a space for open discussion of ideas and self-expression; however, SCA will not tolerate verbal or written abuse, threats, harassment, intimidation or violence against person or property. If students are concerned about these matters in the classroom setting they are encouraged to contact their SCA Diversity and Inclusion Liaison, <http://cinema.usc.edu/about/diversity.cfm>; e-mail diversity@cinema.usc.edu. You can also report discrimination based on a protected class here <https://equity.usc.edu/harassment-or-discrimination/>

Disruptive Student Behavior:

Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. A student responsible for disruptive behavior may be required to leave class pending discussion and resolution of the problem and may be reported to the Office of Student Judicial Affairs for disciplinary action.

PLEASE NOTE:

FOOD AND DRINKS (OTHER THAN WATER) ARE NOT PERMITTED IN ANY INSTRUCTIONAL SPACES IN THE CINEMATIC ARTS COMPLEX