CTAN 508L - Live Action Integration with Visual Effects

Class Dates/Times : Thursdays @ 7pm-10pm

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Adjunct Faculty

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Student Assistant: TBD

Instructor note: I do not have office hours but if you want to chat about something please let me know and we can discuss it after class. Time depending I am happy to help you with your questions and projects.

Course Description:

This course will survey the tools and techniques to successfully marry live action shooting with CGI elements and live action footage. It will be applicable for both film production and animation students which intend to utilize visual effects in their work. With an emphasis on 2D compositing, issues and techniques will be taught working with combinations of elements such as HD background plates, film plates, 3D CGI elements, and green screen performances. Issues will range from on-set visual effects protocol, match-moving of CGI, to final compositing technique. Each student will produce representative shots illustrating the techniques learned. In addition, developing one's eye and judgment for good visual effects work will be a recurring theme throughout the class.

Course Credits : 2

Prerequisites: CTAN 462, Visual Effects, or CTAN 464L, Digital Lighting and Rendering, or CTAN 452, Introduction to 3D Animation

Course Length: 15 weeks, meeting once a week. Three hours each class meeting, totaling 45 hours total instruction.

Hard Drive Required: 500GB, 7200rpm, firewire400 interface, either 2.5" or 3.5" form factor. RAID0/eSata interface recommended.

Optional Books: None

Optional Educational DVD's:

"Introduction to Nuke Compositing", Rob Nederhorst, The Gnomon Workshop, 2005.

"Nuke Compositing in Production", Rob Nederhorst, The Gnomon Workshop, 2005.

(these are old as can be but have some useful info on node usage...feel free to "download" them)

Software Used: Foundry Nuke, Autodesk Maya (minimal), Tracking software (minimal)

Grading Breakdown:

- Participation/Adhering to Naming Conventions @ 40%
- Weekly Assignments @ 40%
- Final Project @ 20%

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Class Schedule: (Dates are the date of the class)

Week 1: (Jan 17)

- Introduction to Class Goals Discussion about "what it means to be a compositor"
- Information on instructor availability
- Review of Class Project(s) and how we will be rendering, etc
- Comparing Nuke to After Effects
- Overview of Foundry Nuke
- Formats in Video and Film
- Color Space/Lin/Log Format
- Image Channels
- EXR Format
- Naming Conventions (important!)
- **Class Exercise: Examine Various Samples of Image Formats in Nuke. Assignment: Acquaint Yourself to Nuke UI**

Week 2 : (Jan 24)

- The fundamentals to creating a good composite
- Using color correction nodes
- How to examine plates for things to fit CGI in
- Examining good shots on why they look the way they do.
- What is photoreal finishing?
- **Assignment : Work on intro composite of jet**

Week 3: (Jan 31)

- Walkthrough of production composite (SAAB)
- **Assignment : reproduce production composite**

Week 4: (Feb 7)

- Review of assignment
- Refine production composite (goal is to make sure there is an understanding of taking a shot to final)
- **Assignment : one more go at production composite**

Week 5: (Feb 14)

- I better get a Valentine's gift!! HAH!
- Introduction of the Archetype composite
- Understand laying methodology
- See tricks used to finalize the shot
- **Assignment : start composite with plate cleanup**

Week 6: (Feb 21)

- Review of assignment
- Showcase custom nodes for lens flare, distortion, camera shake
- Refine production composite (take the shot to final!)

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- **Assignment : one more go at production composite (final the shot!)**

Week 7: (Feb 28)

- Review of assignment
- Refine if needed
- Intro to keying with Nuke
- **Assignment : keying exercise**

Week 8 : (Feb 27)

- Review of assignment
- Refine if needed
- Walkthrough of keying and production composite utilizing Nuke 3d system (Solomon's)
- **Assignment : reproduce production composite**

Week 9 : (Mar 7)

- Review of assignment
- Refine if needed
- Introduction to tracking and stabilization with Nuke 3d tracker
- **Assignment : track and stabilize footage**

Mar 18-23 (Spring Break!!!!)

Week 9 : (Apr 4)

- Review of assignment
- Refine if needed
- Sky replacement techniques for assignment
- **Assignment : replace sky into stabilized footage**

Week 10 : (Apr 11)

- Review of assignment
- Introduction of Mocha software
- Walkthrough of Samsara shots for simple compositing techniques that are bread and butter work.
- **Assignments : reproduce production shot(s) and investigate better ways to do this work**

Week 11: (Apr 18)

- Review of assignment(s)
- Intro to production composite for Archetype
- Showcase multipass compositing and gizmo creation
- Show how to make a cleanplate and roto existing foreground in
- **Assignment : assemble basic Archetype comp**

Week 12: (Apr 25)

- Review of assignment
- Talk about shot finishing and look at detail work needed to take the shot to final

- Intro to final project
- **Assignment : track final project footage and place rough geo, find elements**

Week 13: (May 2)

- Review of assignment
- Review of projection in Nuke 3D system
- Review of current non CTAN508 work if students require help
- **Final Project Assignment : create matte painting and project onto created/placed geo**

Week 14: (May 9)

- Review of assignment
- Walk through of how to place elements in comps and how to composite them for maximum effectiveness
- In class work of placing elements
- Review of current non CTAN508 work if students require help
- **Final Project Assignment : continue placing elements**

Week 15: (May 16)

- Final Shot due
- Talk about the business of VFX and how it pertains to working in the field

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STUDENTS WITH DISABILITIES: Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure that the letter is delivered to the Professor as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m. - 5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

MISSING AN EXAM, INCOMPLETES: The only acceptable excuses for missing an exam or taking an incomplete in the course are personal illness or a family emergency. Students must inform the professor before the exam and present verifiable evidence in order for a make-up to be scheduled. Students who wish to take incompletes must also present documentation of the problem to the instructor or teaching assistant before final grades are due.

ACADEMIC INTEGRITY: USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: http://www.usc.edu/dept/publications/SCAMPUS/gov/ . Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: http://www.usc.edu/student-affairs/SJACS/ .

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.