Prefix, Number and Name of Course:
COM 435 Visual Effects

Credit Hours: 3
In Class Instructional Hours: 2  Labs: 2  Studio:  Field Work: 0

Catalog Description:
Prerequisites: COM 329

Study and creation of computer generated visual effects (VFX), such as green screen, color correction, digital compositing, motion capture and motion tracking. Conceptual and aesthetic approaches to VFX will be explored in artistic and industry examples. Students will plan, produce and direct videos integrating visual effects working in industry-emulating teams. Offered biennially in spring semester.

Reasons for Addition:

This new course proposal is one of two courses in Motion Graphics and Visual Effects being added as part of the Media Production major program revision, in light of departmental experience with the previous program version, evolving departmental needs, and new approaches in the field. In particular, this expansion of post production in our curriculum mirrors the structure of competitive institutions offering similar degrees, and takes advantages of updates to our lab and equipment database. It is also necessary to update the Media Production major periodically to keep current with the profession, as required by our accrediting body ACEJMC (Accrediting Council for Education in Journalism and Mass Communication).

<table>
<thead>
<tr>
<th>Student Learning Outcomes: At the completion of this course, students will be able to:</th>
<th>Course Content References:</th>
<th>Assessment:</th>
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<tr>
<td>1. discuss the history of visual effects in media.</td>
<td>I, VII</td>
<td>Participation in class discussions, written quizzes</td>
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<td>2. create a preproduction plan in the role of a digital effects supervisor.</td>
<td>II, III</td>
<td>Written preproduction plan</td>
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<td>3. demonstrate green screen video production and lighting techniques.</td>
<td>IV, VII</td>
<td>Applied video projects, written quizzes</td>
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<td>4. implement motion tracking designs.</td>
<td>V, VII</td>
<td>Applied motion tracking projects; written quizzes</td>
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<td>5. apply digital color correction techniques.</td>
<td>VI, VII</td>
<td>In class demonstrations</td>
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<td>6. produce a short video utilizing digital effects.</td>
<td>I - VII</td>
<td>Participation in classroom exercises; video presentations</td>
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<td>7. evaluate both planned and completed digital effects productions.</td>
<td>I, VII</td>
<td>Participation in class discussion; written quizzes</td>
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**Course Content:**

I. History of visual effects  
   A. Hollywood trick departments  
   B. Optical printing  
   C. Matte effects  
   D. Camera motion controls  
   E. Chromakey and green screen  
   F. Digital effects  
   G. Development of color correction  
   H. Motion tracking  

II. Writing and storyboarding for visual effects  
   A. Breaking down a script  
   B. Layered storyboarding  
   C. Continuity  
   D. Building a sequence  
   E. Camera angles  
   F. Scale  
   G. Camera motion  

III. The Production pipeline  
   A. Role of visual effects supervisor  
   B. Pitching projects  
   C. Communication  
   D. Implementing a unified vision  
   E. Collaboration and building teams  

IV. Digital compositing
A. Designing shots for compositing  
B. Lighting  
C. Angles and depth of field  
D. Shutter speed  
E. Alpha channel  
F. Blending modes  
G. Chromakey and green screen

V. Motion capture and tracking  
   A. CG characters  
   B. Marker placement  
   C. Markerless motion capture  
   D. Point vs. planar tracking  
   E. Limitations

VI. Color correction  
   A. Waveform monitors  
   B. Vectorscopes  
   C. Histograms  
   D. Curves  
   E. Broadcast parameters  
   F. Aesthetics  
   G. Color correction techniques

VII. Meaning in Visual effects  
   A. Symbolism of color and shape  
   B. Three dimensionality  
   C. Emotional effects  
   D. Intellectual effects  
   E. Metaphor  
   F. Rhythm and pacing  
   G. Story  
   H. Expression

Resources:

Scholarship:


**Periodicals:**

*Film Quarterly*; UC Press  
*Leonardo*; MIT Press  
*Visual Communication*; Sage Journals  
*Computers and Graphics*; Elsevier Press  
*Cinefex*; Visual Effect Society  
*Film Criticism*; Michigan Publishing

**Electronic and/or Audiovisual Resources:**

*Digital Domain*; https://www.digitaldomain.com  
*Lynda*; http://www.lynda.com  
*NOVA Online/Special Effects - PBS*;  
  https://www.pbs.org/wgbh/nova/specialfx/effects/history.html  
*Visual and Special Effects Milestones*; https://www.filmsite.org/visualeffects.html  
*Visual Effects Society of VFX Professionals*;  
  https://www.visualeffectssociety.com/