

# S14-Animation

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## Spring 2014 - Digital Art and Animation

### Course Description

Credits: 3; pre-req: junior level digital media concentration and ART2932C (Time Based Media)

[from the university course listing]

An intermediate class that explores principles and concepts of animation using traditional methods, digital imaging, and contemporary 2D and 3D software applications. Lectures, demonstrations, screenings and readings provide students with the opportunity to integrate concept, form and technology to explore the possibilities of animation.

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ART3616C Undergraduate

ART6675C Graduate

Class: FAC 306

Time: T/Th 11:45 - 2:45

Website: <http://art-tech.arts.ufl.edu/~jack/wiki/S14-Animation>

Listserv: [SPRING-1757-L@lists.ufl.edu](mailto:SPRING-1757-L@lists.ufl.edu)

### Introduction

This course is designed to introduce students to an "animation workflow" prevalent in the realm of art production and computer graphics. The emphasis is on the development of an **experimental** art practice that combines form, method, and content.

Multiple projects emphasizing different aspects of what is considered the "animation pipeline", from 3D modeling, texturing, lighting, motion, and post-production compositing techniques, will be used to

develop ones skills in the overall, artistic use of these technologies. You will learn to integrate CG elements with live background imagery in the form of still or short motion composites. Lectures on animation principles and methods, introduction to the history of animation, and screenings of past and contemporary uses of computer graphics in art practice are planned. Reading and writing assignments will lead to class discussions investigating the nature of digital art and animation.

## Objectives

1. convey movement through analog and digital means
2. articulate cinematography digitally
3. compose motion graphics and imagery
4. develop editing methodologies
5. extend a critical approach to media
6. synthesize a long term production pipeline
7. create conceptual proposals to generate work
8. utilize historical and contemporary animation and theory in work

## Grading

Grades will be based 90% on class assignments and 10% on class participation. You are expected to constructively criticize your peers. Constructive criticism is considered a part of your class participation.

Minus Grades were instituted on campus during Summer A 2009. For more information: [\[1\]](#)

Specific info on grades and grading can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Notwithstanding the description of grades above, generally, grades are conceived in this way:

**A(Excellent)** Student's work is of exceptional quality and the solutions to problems show a depth of understanding of the program requirements. Project is fully developed and presented well both orally and graphically. Student has developed a strong and appropriate concept that clearly enhances the overall solution. The full potential of the problem has been realized and demonstrated.

**B(Good)** Student's work shows above average understanding and clear potential. All program requirements are fulfilled and clearly and concisely presented.

**C(Fair)** Student's work meets minimum objectives of course and solves major problem requirements.

Work shows normal understanding and effort. Quality of project as well as the development of knowledge and skills is average.

**D(Poor)** Student's work shows limited understanding and/or effort. Minimum problem requirements have not been met. Quality of project or performance as well as development of knowledge and skills is below average.

**F(Failure)** Student's work is unresolved, incomplete and/or unclear. Minimum course objectives or project requirements are not met, and student's work shows lack of understanding and/or effort. Quality of project or performance is not acceptable.

Instructor's evaluation of student's interest, motivation, attendance, proficiency and overall development or improvement during the semester will be taken into consideration in determining the final course grade. This syllabus is subject to refinement and development throughout the semester based on feedback and class interaction. Policies and grading criteria are absolute and will not change. Any substantial changes will be discussed with the class prior to implementation.

### **Grading breakdown:**

Strange Loop = 10%

Simple Form = 10%

Form and Meaning = 10%

What is Real? Proposal = 10%

What is Real? = 20%

What is Real? Documentation = 10%

Essays: Total = 15%

Class Participation = 15%

### **Attendance**

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

### **Evaluations**

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of

these assessments are available to students at <https://evaluations.ufl.edu/results/>.

## **Reading**

Readings will consist of .pdfs and URLs available on the class website as well as this textbook: TBD

## **Materials and Fees**

Required materials will depend on the proposed projects submitted by students. Students will design projects and set budgets based on the goals of the work. See the Schedule of Courses for any attendant fees related to this course.

## **Additional Policies and Disclaimers**

Be sure to read the [University Policies](#) and other disclaimers linked at the bottom of each and every page --- see below

## Projects

### Essays

For every reading assignment you will write an essay that addresses the fundamental components of the article and demonstrates a basic knowledge of the key points. Include critical analysis of the content where appropriate. The essay should be posted on the class wiki prior to the beginning of class on the day the reading is due. You may refer to this written text during class discussion.

### Strange Loop

Referencing Douglas Hofstadter's book of the same name, and in tribute to DMA grad Patrick LeMieux, we will continue the tradition of starting out this class with a "strange loop" exercise.

#### [Strange Loop Project](#)

### Simple Form (is that possible?)

Select a single "real world" object and using polygonal modeling techniques, replicate it. Create a continuously looping turntable animation and export it to a QuickTime (h.264) movie file as well as a DVD. Create 1 "beauty" animation and 1 with the wireframe topology of your model visible. Post the movie files to your wiki page along with a reference photo of the replicated object.

### Form and Meaning

Select two to three "real world" objects whose juxtaposition creates meaning greater than each might individually. Using polygonal modeling techniques, replicate these forms and compose them in a way that supports your interpretation of their relationship. Create a continuously looping turntable animation and export it to a QuickTime (h.264) movie file as well as a DVD. Post the movie file to your wiki page along with a reference photo of the replicated object.

### What is Real? FINAL PROJECT

Model (poly), texture, light, and composite a 3d form into a "real world" motion background to create a meaningful experience. Your goal is to blur our ability to separate "real" from "virtual" while self-

reflexively creating an environment that addresses this concept. Submit high, medium, and low resolution stills, linking them to your wiki via a thumbnail. For crit, print and hang the high resolution image using the photo printers in the lab. You will also link online video and show a high quality version of the video at final crit.

Produce a finished motion video (modeled, textured, lit, animated) of no more than 15 seconds. Distill all you have learned in the previous exercises with respect to form, content and method. Export it to a QuickTime (h.264) "mov" movie file in both 320x160 and 1920x1080 resolutions. Upload these to the wiki and link them to the Final Projects page. Post your in-process research documentation to your student wiki page.

- Shoot 10-15 second motion segment using RED camera
- Color correct image sequence using Red Cine-X Pro
- Stabilize motion video
- Match move video using Match Mover or SynthEyes
- Integrate CG object with motion video sequence
- Use image-based lighting techniques to light scene
- Use render passes to separate parts of composite for After Effects (use OpenEXR)
- Texture and light, UV map, etc as covered in class
- Render using Mental Ray
- Composite and tune image in After Effects or Composite
- Present your work using the requirements above.

## **What is Real? PROPOSAL**

You will be evaluated based on your ability to clearly articulate your ideas for the What is Real? project.

## **What is Real? DOCUMENTATION**

You will be evaluated based on your documentation of the What is Real? project.

# S14-Animation/outline

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  - 1.2 Wk 2 : Jan 14, 16 **Survey of Forms**
  - 1.3 Wk 3 : Jan 21, 23 **Poly Modeling I**
  - 1.4 Week 4 : Jan 28, 30 **Poly Modeling II**
  - 1.5 Week 5 : Feb 4, 6 **Texturing I**
  - 1.6 Week 6 : Feb 11, 13 **Texturing II**
  - 1.7 Week 7 : Feb 18, 20 **Nurbs Modelling I**
  - 1.8 Week 8 : Feb 25, 27 **Lighting I**
  - 1.9 Week 9 : Mar 4, 6
  - 1.10 Week 10 : Mar 11, 13 **Lighting II**
  - 1.11 Week 11 : Mar 18, 20 **Rendering Layers**
  - 1.12 Week 12 : Mar 25, 27 **Rendering Passes/Image-based Lighting**
  - 1.13 Week 13 : Apr 1, 3 **Concept and Design Development**
  - 1.14 Week 14 : Apr 8, 10 **Shooting with the Red Digital Cinema Camera**
  - 1.15 Week 15 : Apr 15, 17 **PRODUCTION**
  - 1.16 Week 16 : Apr 22 **LAST DAY OF CLASS**
    - 1.16.1 Week 17 - Thursday, May 1, 3:00-5:00 PM - **FINAL**
    - 1.16.2 DROP DEAD DATE: Saturday the 3rd at 5AM

## Course Outline

- **Unless otherwise specified, all readings are due on Tuesdays following their assignment.**

### Wk 1 : Jan 7, 9 Introduction

1. Intro - Syllabus
2. History
3. Assignment: (Due next week.)
  1. READ-[Strange Loop, Douglas Hofstadter](#)
  2. READ-[The Function of the Studio](#)
  3. REVIEW-[Oliver Laric](#)
  4. REVIEW-[Spirit Surfers](#)
  5. REVIEW-[double happiness](#)
  6. REVIEW-[LSHOADAKA](#)
  7. REVIEW-[nasty nets](#)

8. REVIEW-[Petra Cortright](#)

9. **BEGIN** - [Project 1 \[Strange Loop\]](#)

## **Wk 2 : Jan 14, 16 Survey of Forms**

1. Discuss readings and websites.
2. Screening: Art \* Film \* Animation - various works
  1. Picasso, Duchamp, Bunuel/Dali, Eisenstein, Cage, Svankmajer, Quay, Brakhage, Arcangel
3. Demo: After Effects and Animated GIFs
4. Assignment: (Due next week.)
  1. **FINALIZE** Project 1 [Strange Loop]

## **Wk 3 : Jan 21, 23 Poly Modeling I**

1. **CRITIQUE** Project 1 [Strange Loop]
2. Screening: The Collected Shorts of Jan Svankmajer
3. Demo: Maya Polygonal Modeling
4. Assignment: (Due next week.)
  1. **BEGIN** - [Project 2 \[Simple Form \(is that possible?\)\]](#)
  2. Reading:

## **Week 4 : Jan 28, 30 Poly Modeling II**

1. Screening: The Brothers Quay Collection
2. Demo: More Maya Polygonal Modeling
3. Assignment: (Due next week.)

## **Week 5 : Feb 4, 6 Texturing I**

1. Work on Project 2
2. Introduction to Texturing.
3. Assignment: (Due next week.)
  1. **FINALIZE** Project 2 [Simple Form (is that possible?)]

## **Week 6 : Feb 11, 13 Texturing II**

1. **REVIEW** Project 2 [Simple Form (is that possible?) - Tuesday the 11th]
2. Maya Materials and Basic Rendering
  1. Create scene that exhibits:



1. A bitmap texture
  2. A Metallic car paint (Mental Ray)
  3. Transparency
  4. Reflectivity
  5. Bump Map
  6. Displacement Map
3. Assignment: (Due next week.)
1. **BEGIN** - [Project 3 \[Form and Meaning\]](#)

## **Week 7 : Feb 18, 20 Nurbs Modelling I**

1. WORK WORK WORK

## **Week 8 : Feb 25, 27 Lighting I**

1. **REVIEW** Project 3 - due 27th [Form and Meaning]
2. Discuss readings.
3. Screening:
4. Demo:
5. Assignment: (Due next week.)
  1. None

## **Week 9 : Mar 4, 6**

**Spring PRODUCTIVITY - NO CLASS!**

## **Week 10 : Mar 11, 13 Lighting II**

1. Demo: Rendering, shadows, layers, passes
2. Assignment: (Due next week.)
  1. **BEGIN** - [FINAL PROJECT \[What is Real?\]](#)
  2. Reading: View Lynda.com render layer and render pass tutorials.

## **Week 11 : Mar 18, 20 Rendering Layers**

1. We'll work on render passes in Mental Ray
2. Assignment: (Due next week.)
  1. Reading: View Lynda.com rigging tutorials.

# **Week 12 : Mar 25, 27 Rendering Passes/Image-based Lighting**

1. Demo: Render Passes (25th) and IBL(27th)
2. Review Brainstorm ideas for What is Real project. (26th)
3. Assignment: WORK

Research and document (ie, post to wiki) your final project ideas.

Photo your proposed shooting location and mock up your shot.

Prepare to present your project proposal on the 2nd.

Locate all potential shot locations on the google Shot Map I sent via email

Study [Red Scarlet INFORMATION](#) on the A+T Tutorial Forum

# **Week 13 : Apr 1, 3 Concept and Design Development**

1. **REVIEW PROPOSAL** [What is Real? Proposal]

Present your concept and production plan for the final project (2nd)

1. Begin production of CG elements/scene for your shoot
2. Demo: Match Moving! (4th)
3. Assignment: WORK

Prep for shooting background footage with Red.

You must pre-plan EVERY element of your shoot, in advance

You must have any/all props or assets in place at the site of your shoot

Remove any extraneous proposed shot locations from the Shot Map

Continue CG development

# **Week 14 : Apr 8, 10 Shooting with the Red Digital Cinema Camera**

1. Shoot site footage using RED Scarlet!
2. Continue CG work
3. Assignment: WORK

# **Week 15 : Apr 15, 17 PRODUCTION**

1. Continue CG work
2. Assignment: WORK

# **Week 16 : Apr 22 LAST DAY OF CLASS**

1. Continue CG work
2. Assignment: WORK

## **Week 17 - Thursday, May 1, 3:00-5:00 PM - FINAL**

1. **REVIEW** Project 5 [What is Real?]

### **DROP DEAD DATE: Saturday the 3rd at 5AM**

COMPLETE WIKI UPDATES AND ALL DOCUMENTATION

I will grade based on what I see on the wiki at this day and time!

If it's not there, you didn't do it!

I will LOCK the wiki at this point (ie, no more edits allowed)!

# UF Policies

## University/College/School Policies

### Academic Honesty

(See UF Rule 6C1-4.017 [\(PDF\)](#) Students are required to be honest in all of their university class work. Faculty members have a duty to promote ethical behavior and avoid practices and environments that foster cheating. Faculty should encourage students to bring incidents of dishonesty to their attention. A faculty member, in certain circumstances, can resolve an academic dishonesty matter without a student disciplinary hearing. The procedures and guidelines are available from the Director of Student Judicial Affairs. In the fall of 1995, the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. (See UF Rule 6C1-4.0172 [\(PDF\)](#))

### The Honor Code

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” [The Honor Code](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class. More on these policies can be found in the [UF STUDENT GUIDE](#).

### Accommodations for Students with Disabilities

Support services for students with disabilities are coordinated by the [DISABILITY RESOURCE CENTER](#) in the Dean of Students Office. All support services provided for University of Florida students are individualized to meet the needs of students with disabilities. To obtain individual support services, each student must meet with one of the support coordinators in the Disability Resources Program and collaboratively develop appropriate support strategies. Appropriate documentation regarding the student's disability is necessary to obtain any reasonable accommodation or support service.

### Wellness

Contact information for the Counseling and Wellness Center:

<http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-

1111 or 9-1-1 for emergencies.

## **Computer Use and Acceptable Use Policy**

All faculty staff, and students of the University of Florida are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. [HTTP://WWW.CIRCA.UFL.EDU/COMPUTERS](http://www.circa.ufl.edu/computers) and [HTTP://WWW.CIO.UFL.EDU/AUPOLICY.HTM](http://www.cio.ufl.edu/aupolicy.htm)

## **Disruptive Behavior**

Be advised that you can and will be dismissed from class for disruptive behavior. More detailed information on this can be found in the [UF RULES AND POLICIES](#).

## **HEALTH AND SAFETY**

Please familiarize yourself with the UF SA+AH Health and Safety Handbook, available online at: <http://arts.ufl.edu/art/healthandsafety>

- In particular download and familiarize yourself with the Art + Technology area specific guidelines linked [here](#).

## **Email and Communications**

All email correspondence will be through your UFL gatorlink email address. You are responsible to check your email on a daily basis. No excuses for not having read email will be accepted. It is recommended that you DO NOT forward your UFL email to other services. Often, other services will mark UFL email as junk/spam and you will not receive it. THIS IS NOT A VALID EXCUSE. I commit to responding to your email within 24 hours during the week, and within 48 hours on the weekend. In return, I expect you to respond to my emails with same provisions.