

VIST 305 Sections 501 & 502: Visual Studies Studio II Fall 2009

Class Time: MWF 3:00pm - 4:40pm
Classroom: Langford Architecture Center, Building C, Room 306B & C
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Catalog Description (1-5). Credit 3.

Theory and practice of visual communication employing digital and conventional media; development of artistic concepts, proposal development and related implementation techniques; introduction to digital painting, 3D modeling, animatics and post-production. Prerequisite: VIST 206; upper level classification in BS-Visualization.

Introduction

VIST 305 builds upon previous traditional media oriented studios and introduces a variety of processes using digital media primarily in a 3-D environment. Digital media, or computer graphics, can be understood as the synthetic representation of form, motion, material, and light. Emphases will be placed on the development of creative solutions, narrative and design. Research and the use of historical precedent will be an integral component of the studio.

Recommended Texts

Block, B. (2008) *The Visual Story*. Focal Press.
Mullen, T. (2007) *Introducing Character Animation With Blender*. Wiley Publishing.
Thomas, F. and Johnston, O. (1981) *The Illusion of Life: Disney Animation*. Hyperion.
Williams, R. (2001) *The Animator's Survival Kit*. Faber and Faber.

Course Objectives

- to distinguish a variety of computer graphics modeling techniques from their conventional counterparts
- to demonstrate skill in the creation of both hard surface and organic computer graphics models
- to recognize the principles of traditional animation as they apply to computer generated motion
- to demonstrate skill in the creation of expressive character and object motion

- to reproduce in computer graphics the material and lighting effects found in real-world objects and environments
- to produce computer graphics time-based artwork that is visually cohesive in form, motion, and composition
- to develop self-imposed time management skills
- to locate additional sources of information outside the classroom that can be applied to the technical and aesthetic problems presented in class

This course will consist of both formal lecture and studio time. All studio time will be in Building C, Room 306B.

The course is roughly divided into three major topics: form, motion, and light & material. Each of those topics is further divided in thirds by: perception, computation, and artistic expression. Each major topic will consist of a major project and minor exercises. The major projects are intended to related to one another in order to allow the completion of a significant artistic work by the end of the semester.

The theme for the projects is a nursery rhyme. Each student will choose a nursery rhyme that can be spoken in 30 seconds or less. Modeling (form), animation (motion), and look development (light & materials) will each be explored through the development of a time-based visual work that communicates an interpretation of the nursery rhyme.

Example:

“Jack Sprat could eat not fat
His wife could eat no lean
And so betwixt the two of them
The licked the platter clean

Jack ate all the lean,
Joan ate all the fat.
The bone they picked it clean
Then gave it to the cat”

(www.rhymes.org.uk)

How this nursery rhyme is visually interpreted is determined by the creativity and skill of the student. Preparation and planning for the execution of the projects will rely heavily on the use of reference material –inspirational images that guide the visual development. Collection and creation of reference material will comprise a portion of the exercises. Other exercises will focus on building skills.

Completing each exercise will greatly enhance the ability to successfully complete each project. Completing each project will greatly enhance the chances of emerging from the course with an engaging work –thus demonstrating your grounding in the visual and technical components of computer graphics.

Computing

As required by the policies of the College of Architecture each student must possess a laptop with the minimum recommended performance specifications.

<http://archone.tamu.edu/College/Academics/Admissions/computing.html>

Your laptop will be your primary tool for completing your course work for this course. Efficient use of your computing resources will require that you police the amount of data stored and that you perform regular backups of important material. Computing failures do happen and they tend to happen at the worst possible times. Protect yourself and your work.

Though you are working on a laptop and laptops are by their nature portable it is highly recommended that you work in the studio both during and between class hours. Your classmates are the greatest sources of both critical feedback and technical support. Be respectful, but also take advantage of the studio environment.

Grading

Projects: This is a project-based course. Assignments will primarily be completed on the computer. However, some traditional drawing is required. There are four projects, including the final project. Together, projects account for 75% of the final grade.

Exercises: There are 15 exercises. Each is pass/fail and worth 1% of your final grade. The purpose of the exercises is to contribute toward successful on-time completion of the projects.

Participation: Attendance, participation in group discussions and critiques, familiarity with the content of discussions and viewing material, and willingness to take part in demonstrations are worth an additional 10% of the final grade.

15% Project #1
15% Project #2
15% Project #3
15% Exercises
30% Final Project
10% Participation
<hr/>
100% Final Grade

A's B's C's D's & F's Defined: Each project has three components that contribute to its success: aesthetic allure, technical accomplishment, and presentation. During in-class reviews a number grade from 0-100 will be assigned to the project based upon the level of achievement attained for each of the three components. A combined score of 90 and above indicates that the project excels in all three areas. A score of 80-89 indicates that the project excels in at least one area and meets the expectations of the other two components. A score of 70-79 indicates that the project meets expectations in at least two of the three components. A score of 60-69 indicates that a project has managed to meet

expectations in only one area. A score of below 60 indicates that the project did not meet expectations in any area. A score of zero will be given when projects are not presented on time.

Late and Incomplete Work: Late projects, including the final project, will incur a 10% penalty per class session that they are late. Bonus work for Projects #1 and #3 may not be turned in late for credit. It is advisable to demonstrate incomplete work on the due date for partial credit rather than having the entire grade for the project penalized.

Projects

Project #1: Present models representing a ground plane, at least 4 props and at least 2 organic models including a person or animal. Models should be presented digitally as turntables running 120 frames for each model (or group of model where possible). The required resolution of the images is 720x540 (aspect ratio of 1.33). The models must be clearly lit and rendered flat gray with visible span lines.

The final grade will be determined by the artistic quality of the sculptures, the technical quality of the span distribution and density, and the professionalism of the verbal and visual presentation.

Project #2: Present two of the models from Project #1 as characters interacting with each other and/or the environment. Both models must articulate. One of the animated models must demonstrate a recognizable mood shift.

The animation must be no longer than 20 seconds in length rendered at 30 frames per second. The required resolution of the images is 720x540 (aspect ratio of 1.33).

The final grade will be determined by the artistry of the animation, clarity of staging, and professionalism of the verbal and visual presentation.

Project #3: Present two hard surface and one organic model from the previous projects complete with materials and staged lighting of single environment. The camera should orbit in a 180-degree arc around the staged scene. The characters and environment should be static. A ground plane and cast shadows must be present.

The camera should complete the 180-degree arc of movement and return within 120 frames. The required resolution is at least 720x540 (aspect ratio of 1.33).

The final grade will be determined by the combination of quality of artistry in lighting, the complexity of the material design, and the integration of the objects with their environment.

Final Project: Create an animated short of a traditional nursery rhyme. The running time should be no longer than 30 seconds running at 30 frames per second. The minimum horizontal resolution is 720. Title slate, end slate, and sound are required. The end slate

must include “Copyright 2008 Texas A&M College of Architecture” and your name.

The final grade will be determined by the artistry and technical difficulty in execution of the piece along with the professionalism of its presentation.

Exercises

Exercise #1: Nursery rhyme ideas. You will speak the lines of your chosen nursery rhyme for the class while imparting the emotive tone you feel is appropriate for the piece. You will also bring to class at least three examples of the visual style and tone for your nursery rhyme. These works can be either your own creations or drawn from inspirational media.

Exercise #2: Camera framing mock-up geometry. Present in a 3D animation package rough 3D models of the representative size and shape of three objects expected to play major roles in your nursery rhyme. The goal of this exercise is to ensure that you are familiar with camera control, the relative size of objects, and 3D space, both local and global.

Exercise #3: Hard surface models. Present for review in class progressive development of hard surface models that play prominent roles on your nursery rhyme. The models should exhibit the visual style of your chosen reference art.

Exercise #4: Organic models. Present for review in class progressive development of organic models that play prominent roles on your nursery rhyme. The models should exhibit the visual style of your chosen reference art.

Exercise #5: Pendulum swing. Present as a Quicktime movie playing at either 24 or 30 frames per second the action of a heavy pendulum swinging. The pendulum should slow at the peaks of its motion and speed through the valleys.

Exercise #6: Three ball bounce. Present as a Quicktime three bouncing balls, each distinguishable from the others by size, color, or both. One ball should appear heavy, one should appear light, and one somewhere in between. Each should appear to follow the laws of physics.

Exercise #7: Character calisthenics. Present in class the articulated motion of limbs, torso and head of an animated character. Timing and range of motion should be representative of biological form restrictions.

Exercise #8: Character walk cycle; present in class the cyclical locomotion of a bipedal character. The action should play at either 24 or 30 frames per second and should be available for review from front, side, and $\frac{3}{4}$ view. Foot contacts must be visible through the use of either grid lines or contact shadows.

Exercise #9: Color script. Present as either a digital image or painted page a breakdown of an imagined sequence of images from your nursery rhyme. The image representing each major moment should display the grouping of major, mid, and minor color tones as well as representative visual complexity.

Exercise #10: High key, low key.

Exercise #11: Bring to class objects and reference material that evoke appropriate materials for some of the primary models in your nursery rhyme.

Exercise #12: Hard surface model material sheets. Present a hard surface model from the nursery rhyme with material noted and references provided.

Exercise #13: Organic model texture development. Present one of the organic models from the nursery rhyme with both painted and procedural textures applied.

Exercise #14: Highlights and black levels. Present three primary shots from the final project in black and white showing light direction, shadows, and highlights.

Exercise #15: Final project animatic. Present the sequence of shots for the final project, with correct framing, staging, and timing. Quicktime files.

Plagiarism

The handouts used in this course are copyrighted. By "handouts," I mean all materials generated for this class, which include but are not limited to the course notes, syllabi, exams, problems, in-class materials, review sheets, additional problem sets, and the contents of the class World Wide Web site. Because these materials are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission. For the contents of class World Wide Web sites, you have permission to make printouts strictly for your use in this class.

In this course, we want to encourage collaboration and the free interchange of ideas among students and in particular the discussion of homework assignments, approaches to solving them, etc. However, we do not allow plagiarism, which, as commonly defined, consists of passing off as one's own the ideas, words, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated.

If you have any questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules, under the section on Academic Misconduct.

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Office of Support Services for Students with Disabilities in Room 126 of the Student Services Building. The phone number is 845-1637.

Academic Integrity Statements

AGGIE HONOR CODE "An Aggie does not lie, cheat, or steal or tolerate those who do."

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state

their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.

For additional information please visit: www.tamu.edu/aggiehonor/

VIST 305 Course Schedule (subject to change)

WK	DATE	ACTIVITY
1	M 8/31	STUDIO: Course introduction; structure of assignments and goals; introduction of blender (www.blender.org); nursery rhyme assignment; description of visual tone.
	W 9/2	IN CLASS EXERCISE – Performance of nursery rhyme ideas.
	F 9/4	DISCUSSION: Describe your worst media experience. DUE: Exercise #1 - Camera framing mock-up geometry.
2	M 9/7	LECTURE: Computation of Form; DUE: Exercise #2 - Hard surface progress review (1 st pass)
	W 9/9	LECTURE: Aesthetics of Form (Bienko); <i>(McLaughlin out)</i> .
	F 9/11	DUE: Exercise #2 – Hard surface model progress review (2 nd pass). Visit Immersive Visualization Center
3	M 9/14	LECTURE: Cinematic Representations of Form (McLaughlin); DUE: Exercise #4 – Organic model progress (1 st pass).
	W 9/16	IN CLASS EXERCISE: Character posing figure drawing (Bienko) ; <i>(McLaughlin out)</i> .
	F 9/18	DUE: Exercise #4 – Organic model progress (2 nd pass) (Bienko) ; <i>(McLaughlin out)</i> .
4	M 9/21	DUE: Project # 1, review in class.
	W 9/23	Introduce project #2; LECTURE: Perception of motion (McLaughlin).
	F 9/25	DUE: Exercise #5 – Pendulum swing;
5	M 9/28	DUE: Exercise #6 – Three ball bounce. DISCUSSION: Realism vs. Exaggeration (Bienko)
	W 9/30	LECTURE: Computation and representation of motion; Cycles (McLaughlin). DUE: Exercise #7 – Character calisthenics.
	F 10/2	LECTURE: Expressive motion (Bienko).
6	M 10/5	LECTURE: Principles of Animation (McLaughlin) DUE: Exercise #8 - Character walk cycle (1 st pass);
	W 10/7	DUE: Exercise #8 - Character walk cycle (2 nd pass); (visit from Andre Thomas?)
	F 10/9	LECTURE/EXERCISE: Dynamic framing and staging (Bienko); <i>(McLaughlin out)</i>
7	M 10/12	DUE: Project #2.
	W 10/14	LECTURE: Color theory (Bienko)
	F 10/16	DUE: Exercise #9 – Color script; Introduce project #3; review mid-semester grades and participation.
8	M 10/19	No class – College of Architecture Research Symposium.

	W 10/21	DUE: One-page description of Research Symposium. DISCUSS: 'Pixel Cinematography' from SIGGRAPH 1996.
	F 10/23	DUE: Exercise #10 - High key, low key, high contrast, low contrast.
9	M 10/26	LECTURE: Computation of Light & Materials (McLaughlin)
	W 10/28	DUE: Exercise #11 – Materials found and captured materials.
	F 10/30	In Class Exercise – Working from personal memory (Bienko)
10	M 11/2	DUE: Exercise #12 due - Look development turntables for hard surface models (1 st pass).
	W 11/4	DUE: Exercise #12 due - Look development turntables for hard surface models (2 nd pass).
	F 11/6	DUE: Exercise #13 – Look development turntables for organic models (1 st pass). (Dallas Field trip)?
11	M 11/9	DUE: Exercise #13 – Look development turntables for organic models (2 nd pass).
	W 11/11	DUE: Exercise #14 - Highlights and black levels (Bienko); (McLaughlin out).
	F 11/13	STUDIO: Introduce final project
12	M 11/16	DUE: Project #3 – In class group review.
	W 11/18	IN CLASS EXERCISE: Storyboarding.
	F 11/20	LECTURE: Story dev, animatics and pre-viz (McLaughlin).
13	M 11/23	DUE: Exercise #15 - Final project animatic.
	W 11/25	No class –Thanksgiving Holiday
	F 11/27	No class – Thanksgiving Holiday
14	M 11/30	Final project progress check #1.
	W 12/2	Final project progress check #2.
	F 12/4	Final project progress check #3.
15	M 12/7	DUE: Final Project