

VIST 305-501 & -502 • VISUAL STUDIES STUDIO II •  
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CATALOG DESCRIPTION • CREDITS 3

Prerequisite: VIST 206; upper level classification in BS-Visualization.

This course will cover the theory and practice of visual communication. Employing digital and conventional media we will explore: development of artistic concepts, proposal development and related implementation techniques, introduction to digital painting, 3D modeling, animatics and the idea 'post-production' at large.

INTRODUCTION

VIST 305 builds upon previous studios oriented toward traditional media 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. Emphasis 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.

TEXTS AND REFERENCES FOR READINGS

Thomas, F. and Johnston, O. (1981) *The Illusion of Life: Disney Animation*. Hyperion.  
Cotta Vaz, M. and Duigan, P. (1996) *Industrial Light & Magic: Into the Digital Realm*. Del Rey.

RECOMMENDED TEXT FOR TECHNICAL SUPPORT

Mullen, T. (2007) *Introducing Character Animation With Blender*. Wiley Publishing.

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

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

The course is roughly divided into three major topics: FORM, MOTION AND LIGHT & MATERIAL. Each of these topics are further divided into 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 (MOTOION), 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](http://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 sculpts, 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 artistry of the animation, clarity of staging, and professionalism of the verbal and visual presentation will determine the final grade.

### 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 nursery 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

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 2

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 3

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 4

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 5

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 6

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 7

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 8

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 9

High key, low key.

##### EXERCISE 10

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

##### EXERCISE 11

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

##### EXERCISE 12

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

##### EXERCISE 13

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

#### EXERCISE 14

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/](http://www.tamu.edu/aggiehonor/)

**VIST 305 Course Schedule (subject to change)**

<b>WK</b>	<b>DATE</b>	<b>ACTIVITY</b>
1	M 8/31	STUDIO: Course introduction; structure of assignments and goals; introduction of blender ( <a href="http://www.blender.org">www.blender.org</a> ); nursery rhyme assignment; description of visual tone.
	W 9/2	DUE: Exercis #1 – Performance of nursery rhyme ideas.
2	M 9/7	LECTURE: Computation of Form; DUE: Exercise #1 - Camera framing mock-up geometry.
	W 9/9	LECTURE: Aesthetics of Form (Bienko); <i>(McLaughlin out)</i> . DISCUSSION: Describe your worst media experience. DUE: Exercise #2 - Hard surface progress review
3	M 9/14	LECTURE: Cinematic Representations of Form (McLaughlin); Visit Immersive Visualization Center
	W 9/16	IN CLASS EXERCISE: Character posing figure drawing (Bienko) ; <i>(McLaughlin out)</i> . DUE: Exercise #4 – Organic model progress (Bienko) ; <i>(McLaughlin out)</i> .
4	M 9/21	DUE: Project # 1, review in class. Introduce project #2;
	W 9/23	LECTURE: Perception of motion (McLaughlin). DUE: Exercise #5 – Pendulum swing;
5	M 9/28	DUE: Exercise #6 – Three ball bounce. DISCUSSION: Realism vs. Exaggeration (Bienko) LECTURE: Expressive motion (Bienko).
	W 9/30	LECTURE: Computation and representation of motion; Cycles (McLaughlin). DUE: Exercise #7 – Character calisthenics.
6	M 10/5	LECTURE: Principles of Animation (McLaughlin) DUE: Exercise #8 - Character walk cycle (1 <sup>st</sup> pass);
	W 10/7	DUE: Exercise #8 - Character walk cycle (2 <sup>nd</sup> pass); (visit from Andre Thomas?) LECTURE/EXERCISE: Dynamic framing and staging (Bienko); <i>(McLaughlin out)</i>
7	M 10/12	DUE: Project #2. LECTURE: Color theory (Bienko)
	W 10/14	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. 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. In Class Exercise – Working from personal

		memory (Bienko)
10	M 11/2	DUE: Exercise #12 due - Look development turntables for hard surface models (1 <sup>st</sup> pass).
	W 11/4	DUE: Exercise #12 due - Look development turntables for hard surface models (2 <sup>nd</sup> pass). DUE: Exercise #13 – Look development turntables for organic models (1 <sup>st</sup> pass).
11	M 11/9	DUE: Exercise #13 – Look development turntables for organic models (2 <sup>nd</sup> pass).
	W 11/11	DUE: Exercise #14 - Highlights and black levels (Bienko); ( <i>McLaughlin out</i> ). STUDIO: Introduce final project
12	M 11/16	DUE: Project #3 – In class group review.
	W 11/18	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
14	M 11/30	Final project progress check #1.
	W 12/2	Final project progress check #2.
15	M 12/7	DUE: Final Project