ANIMATION I :: SYLLABUS

ARTS 4060 Spring 2013
Tuesdays and Fridays, 10:00 am to 11:50 am
Sage, VAST Studio, 2411
Professor: Silvia Ruzanka
Office: Sage 4202
Office Hours: By appointment or Mon. 2-4
Email: ruzans@rpi.edu (please include ARTS 4060 in the subject heading)

*Note this information is subject to change over the course of the semester.

COURSE DESCRIPTION

Animation I is an introduction to 3D animation. Students will complete several small assignments that are designed to encourage creativity, develop a familiarity with the tools and learn animation terminology.

REQUIREMENTS

1.There will be several small projects leading up to a final project. Satisfactory completion of projects and participation during in-class critiques is mandatory for credit. **Critiques are not optional.**

2.Late arrivals, early departures and unexcused absences are frowned upon. Only 3 unexcused absences will be allowed. If you need an official excuse, go to the Student Experience office: 4th floor of Academy Hall, x8022, se@rpi.edu. Every additional absence will result in the lowering of the final grade by a letter. Do not arrive late or leave early. Three tardies or early departures are considered one absence. It is the student's responsibility to make up material missed due to absence; the professor does not provide lecture notes to students who miss class.

ASSIGNMENTS

All assignments are due at the beginning of class and will be marked down if turned in later. Work must be submitted in the format listed in the assignment. Late assignments will be lowered one letter grade for each day late. Satisfactory completion of projects is mandatory for a passing grade.

Budget in time for technical difficulties. **Losing your files due to a computer crash or other means will NOT be allowed as an excuse for turning in work late.** You are responsible for backing up all of your files. Backing up files is very important. **Printer malfunction will NOT be allowed as an excuse for turning in work late.** You are responsible for printing your images ahead of time.

MATERIALS

Required
Laptop computer (bring laptops to every class)
Active RCS account
Video Camera for shooting reference footage
Flash Drive or portable hard drive: You are responsible for backing up all your files.
Maya 2013 (you can download it for **free** from Autodesk)
Bamboo or Wacom Tablet (this will really be useful!) or a really nice 3 button mouse or both
Sketchbook-for keeping ideas, drawings, photographs, and notes. Bring this to class.

RECOMMENDED READING

The Animator's Survival Kit, Richard Williams
The Art of Maya, Autodesk Maya Press
[digital Modeling], William Vaughan

LEARNING OBJECTIVES

By completion of the course:

- Students will be able to use basic 3D modeling techniques
- Students will be able to use basic shading, rendering, texturing, and lighting techniques
- Students will be able to apply animation concepts learned in Fundamentals of Animation to a 3D environment
- Students will create a short 3D animation

COURSE EVALUATION

Students must demonstrate satisfactory achievement of course objectives through fulfillment of course projects and by contributing to class discussions and critiques.

All appeals must be brought to the instructor during office hours or at a scheduled time convenient to both parties. Keep in mind that an appeal has the potential to raise or lower your grade.

If a student completes all assignments adequately, participates in class discussions and activities, and has a good attendance record, she/he can expect to receive a grade of C.

Grades of B and A are given for work, participation and engagement that substantially **exceed** the average expectation.

Letter grade equivalents for the course are as follows:
A=4.0, A-=3.67, B+=3.33 B=3.0, B-= 2.67, C+= 2.33,
C=2.0 C-= 1.67, D+=1.33, D=1.0, F=0.0

Grade Breakdown:
Attendance & Participation: 10%
Projects: 90%, equally weighted.
Note: Since this course covers an overview of the whole pipeline, some projects build on the project before. For example, you will need to have Project 3 (Character modeling) completed before starting Project 4 (Rigging), which will need to be completed before you can start animating. Budget your time accordingly.

ACADEMIC INTEGRITY

Trust: Student-Teacher relationships are built on trust. Students must trust that teachers have made appropriate decisions about the structure and content of the courses they teach. And, teachers must trust that the assignments that students turn in are their own. Acts, which violate this trust, undermine the educational process.

Plagiarism: All work produced in this course must be original and created by the student. First infraction will result in a failure for the course and a report to the Office of the Dean.

COURSE CALENDAR

Week 1 **1/22** **1/25**	**Introduction**: Introduction to the course Introduction to Maya, keyframe animation	**Homework:** Post your best work from previous classes onto Vimeo and email Vimeo address to ruzans@rpi.edu. Remember to include ARTS 4060 in the subject line. **Project 1: Environment and Bouncing Ball** **Due: 2/1** Simple environment with a bouncing ball Lit and rendered
Week 2 **1/29** **2/1**	**Introduction to Modeling** primitives construction basic lighting basic materials rendering timing and spacing shot composition	**Project 1: Critique**
Week 3 **2/5** **2/8**	**Polygon Modeling** Components, Mesh Tools Extrusion Combining Meshes Normals Using Reference images	**Project 2: Still Life** **Due: 2/26** Create a still life composition with real objects, both man-made and organic. Recreate the still life in Maya, with creative use of lighting, render and print a high-quality final image.
Week 4 **2/12** **2/15**	**Texturing** UV mapping and unwrapping Using pre-made textures Editing and creating textures in Photoshop	**Work on:** UV map and texture still life models, using all original textures.
Week 5 **2/19: no class** **2/22**	**Lighting** Recreating studio lighting in 3D Basic exterior lighting	**Work on:** Light and render still life

Week 6 **2/26** **3/1**	**Character modeling** Character design preparation Basic anatomy Creating reference images Topology and edge flow Box modeling Modeling for animation	**Project 2: Critique** **Project 3: Character Model** **Due: 3/19** Design an original character, humanoid, realistic or stylized. Create a low-poly model with good topology, suitable for animation or for games.
Week 7 **3/5** **3/8**	**Character Modeling** Hand modeling Head modeling Construction techniques for clean edgeflow	**Homework:** 3/5: Character designs, reference images
Week 8 **3/12** **3/15**	**Spring Break**	No Class!
Week 9 **3/19** **3/22**	**Rigging** Rig construction fundamentals Planning a rig Bones and IK Skin weight painting	**Project 3 Critique** **Project 4: Rigging** **Due: 4/2** Create a control rig for your character
Week 10 **3/26** **3/29**	**Rigging** Constraints Control curves and objects Custom attributes Driven keys Expressions	
Week 11 **4/2** **4/5**	**Character animation** Principles of character motion Effective poses Walk cycle tutorial Blocking	**Project 4 Due** **Project 5: Walk** **Due: 4/16** Animate a character walking using yourself as reference
Week 12 **4/9** **4/12**	**Spline control** Graph editor Moving, inserting, deleting keys Spline cleanup	**Homework**: 4/9**:** Reference video and planning sketches
Week 13 **4/16** **4/19**	**Planning for animation** Planning, shooting reference thumbnailing for animation timing	**Project 5 Critique** **Project 6: Animated Short** **First draft due 5/7**

Week 14 **4/23** **4/26**	**Character animation** Arcs Ease-in/ease-out	**Homework:** 4/23: Reference video and sketches
Week 15 **4/30** **5/3**	**Studio**	**Homework:** 4/30: Blocking Pass
Week 16 **5/7**	**First draft critique** **Final Critique will be done during the scheduled final**	**Project 6 Critique** **Project 7: Polishing**