FILM6722 Games Arts II
Instructor: Professor Craig Caldwell, Ph.D.
Email: craig.caldwell@utah.edu
Class Time: TH 6:00pm to 9:00pm
Class Location: Building #36, Gallery 9
Office: CIDAT 105A, 803-8668
Office Hr.: 4:30-5:30(TH)
Credit: 4 credit hours
No Pre-requisites
Web Site: http://fs.finearts.utah.edu/~ccaldwell
Grade Site: http://www.eClassInfo.com/home.asp?id=ccaldwell

BRIEF COURSE DESCRIPTION

The tools and techniques required to animate a character in a 3D animation software program are presented in this course. It includes a strong focus on demonstrating strategies for the application of traditional animation skills in the 3D environment.

COURSE CONTENT

* This course emphasizes the acquisition of demonstrable skills in computer animation. In the past few years we have seen the appearance of reliable, productive computer animation systems. These systems enable people to produce more high quality computer animation; unfortunately, these systems will also enable people to produce more bad animation. Much of this bad animation is due to unfamiliarity with the fundamental principles that have been used for hand drawn character animation for over 60 years. Understanding and implementing these principles is essential to producing good animation.

* Between the late 1920's and 1930's animation grew from a novelty to an art form. Actions became more convincing as animators searched for better ways to communicate to one another the ideas learned through their work. Gradually, procedures were isolated, analysed, and named. They became the fundamental - Principles of Animation.

1. Squash & Stretch - distorting its shape during an action.
2. Timing - Spacing actions to define the weight and size of objects and the personality of characters.
3. Anticipation - The normal getting ready (preparation) for an action.
4. Staging - Presenting an idea so that it is unmistakably clear.
5. Follow Through and Overlapping Action - The termination of an action and establishing its relationship to the next action.
6. Slow In & Slow Out - The spacing of the inbetween frames to achieve natural stopping and starting motion.
7. Arches - Natural movement is in arches not straight lines.
8. Exaggeration - Accentuating the design and action enough so it is clearly and understood.
10. Appeal - Creating a design or action (i.e. animating the rigidity and mass of an object that is enjoyable to watch.

COURSE OBJECTIVES

In order for the 3D character animator to create appealing and effective animation, it is important that students be fully versant with not only the software tools and menus, but also the traditional animation skills that have their genesis in the early days of 2D animation. The course also aims to encourage students to undertake continued self-directed learning in this field, which is a vital component of successful CG studies due to the constant advances in technology and software. It provides an opportunity for students to develop and employ critical evaluation skills and problem solving strategies. This is achieved
by researching additional resources to trouble-shoot technical problems and to expand their knowledge of the software and methods of practice.

**COURSE METHODOLOGY**

Lectures present the core content and knowledge while the tutorials work will be with smaller groups in practical studio work. Lecture material to reinforce and clarify expectations for assignments. In order to achieve the course objectives, it is required that students attend each weekly class (5% reduction of course mark for each absence (i.e. 1 = 5% reduction, 2 absences = 10% reduction). Late or leaving class early, twice, is equivalent to an absence. Attendance taken at the beginning of class. Students should expect to spend 10 hours per week working on assignments.

The students will be issued with a number of files and handouts that provide support for the tools and ideas presented in class. Attendance at each class is required in order to obtain sufficient understanding of the concepts and tools presented.

Students are expected to work in groups as well as alone. The group projects represent an important part of the course in terms of encouraging and guiding students to contribute ideas, make decisions and to cooperate and communicate effectively with other team members. Additionally, the group projects provide an opportunity for students to enhance their professional skills in areas such as responsibility, flexibility and adaptability, and communicating effectively and harmoniously with colleagues.

**ATTENDANCE AND CLASS PARTICIPATION:**

Attendance is required at all lectures, tutorials, and studio classes. Class attendance is a part of the participation grade. Lack of attendance will lower the final grade.

**COURSE EVALUATIONS METHODS AND CRITERIA**

Evaluation will include written tests, storyboards, animatics ... Quizzes may be given at anytime to test retention of previous weeks material.

- **Written tests 30%**
  Exams are designed to further test your understanding of and ability to apply course concepts and will consist of multiple choice, true/false, fill-in-the-blank, and short essay questions.

- **Assignments 60% (4x 15%)** More details will be given for each assignment: Storyboards and Animatics

- **Participation and Quizzes 10%**

Grading Scale: 93-100% = A, 90-92% = A-, 87-89% = B+, 83-86% = B, 80-82% = B-, 77-79% = C+, 73-76% = C, 70-72% = C-, 67-69% = D+, 63-66% = D, 60-62% = D-, Below 60% = E

The above grading scheme weighs final course grades according to the following priorities:

**Criteria:**

"E" is given for an assignment that fails to meet the mechanical or conceptual requirements of university work. Mechanical requirements would be matters such as turn-in times, length of assignment, grammatical concerns, focus of assignment, etc. Conceptual matters would revolve around the comprehension of ideas and relationships between ideas.

"D" is given for work, which meets the requirements established, but demonstrates significant problems either in conceptual formation or mechanical limits.

"C" work is marked by timely completion of the assignment, demonstrating a solid grasp of the material. "C" work shows me that you understand the material under consideration. "C" is the standard grade, and all assignments are made with this in mind.

"B" work is marked by a timely completion of the assignment, demonstrating not only a grasp of
the material under consideration, but the ability to synthesize the material rather than simply repeat what you have learned. "B" work goes beyond minimum requirements outlined in the assignment, and represents work, which is above average. "A" work constitutes superior handling of the mechanical and conceptual material covered in class. Not only will "A" work synthesize materials covered, but will also demonstrate a very high degree of clarity in expression, and an ability to contextualize ideas, execute assignments, explore implications, and/or raise meaningful questions.

Responsibilities and Expectations

University Policies

1. The Americans with Disabilities Act: The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

2. The Drop/Withdrawal policy is available on the University’s website and from Student Services. Briefly, you may drop a course during the first seven calendar days of the semester and withdraw (with a "W") during the next five days without tuition charges (last day to withdraw at all is in mid-October). After that, withdrawal is possible only "in cases of compelling non-academic emergencies" through petition to the dean of your college.

3. The Student Code spells out specific rights of students in the classroom (http://www.admin.utah.edu/ppmanual/8/8-8-10.html). The code also specifies proscribed conduct, including cheating on exams, collusion, and plagiarism. Plagiarism is submitting someone else’s work as your own as well as quoting others without giving credit. I do not tolerate plagiarism in any form. Students found guilty of plagiarism will receive an "E" for the course.

Course Policies

1. Course Material: Throughout this semester, we will be watching relevant clips and sections of games. Any instances of the above will be relevant and appropriate to class discussion and learning. If you do not feel as though you wish to view certain media you will have the option to request an accommodation. Most likely, you will be assigned alternate material to view or experience and comment upon.

2. Attendance: Students are expected to fully participate in the class. Attendance of lectures, participation in discussion, as well as completion of all assignments are expected, and required for satisfactory competition of the course. Registered students must attend class in the first days of class in order to retain their spots in class. Students who do not attend class in the first week will forfeit their positions and may be dropped from the class.

3. Webpage You will need to regularly check our WebCT page on-line throughout the semester. To do this, go to www.webct.utah.edu and type in your student ID and password. On this page you will find our syllabus, assignments, handouts, and other materials. Rarely will you receive paper assignments and handouts in class; while we will go over all assignments in class, you are responsible for the WebCT material and for printing it out if you want a hard copy or if it needs to be turned into the instructor. Also, the syllabus and course calendar are subject to change based on the needs of the class. I will inform you of any changes and you will be able to find the updated changes on the WebCT syllabus.

4. You will also be accessing clips from the web. You will need to view clips through a high-speed connection such as cable or DSL, so begin to think about where you can do this (home, school, city library). Computer access at school and most libraries is free, but you may need to sign-up for a computer or wait for access – plan ahead!

5. Due Dates Are Firm All work is to be completed by the dates given in the syllabus or on the dates we have agreed to as a class. Papers are due at the beginning of class on the due date. Papers and assignments etc., submitted after the beginning of class on the due date can be given credit, but docked 10% of the total possible points beginning that day and each day after that it is late. Failure to complete all graded assignments will result in a substantially lower course grade and may result in a failing grade for the course. Prior arrangement to take an exam early or to modify our presentation schedules is possible in cases of a documented University-related or medical scheduling conflict, and as tests are scheduled in advance and are posted on this syllabus, it is the student’s responsibility to inform the instructor of any arrangements that need to be made.

6. Your Current E-mail Address Each student is asked to update and maintain a current email address on the University website. This will allow me to send class or individual emails via WebCT regarding assignments, any cancelled classes, changes in schedule, and other notices of importance. To
update or add your current email address, go to the Campus Information System site (https://gate.acs.utah.edu), sign on with your uNID and password, click “My Student Profile,” and finally click “Change Email.”

<table>
<thead>
<tr>
<th>Academic Week</th>
<th>Tutorial/Presentation</th>
<th>Tutorial/Content</th>
<th>Assessment</th>
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<tbody>
<tr>
<td>1</td>
<td><strong>Introduction</strong></td>
<td><em>In class – create animation using traditional animation concepts.</em> Pendulum exercise</td>
<td>Next Class – Assessment Item 1A&lt;br&gt;• Animated Sequence Pendulum (QuickTime) due beginning of Class Week2 (turn in to DropBox)&lt;br&gt;Assessment based on integration of Principles of Animation into animation sequence.</td>
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<td><strong>Expectations</strong></td>
<td><em>What can you animate in 3D?</em> Concepts of how the software interpolates between keys are introduced. Using the timeline to copy, paste, delete keys. Setting Preferences Setting keys with the channels panel, shortcut keys. Motion traits Playblast, F-check window. Pendulum animation. Importance of applying animation principles in 3D animation. <em>pre-visualising the timing and posing with Stop interpolation and thumbnails.</em> Guidelines for framing, staging, and camera position.</td>
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<td><strong>Lab rules</strong></td>
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<td><strong>Discussion of the intentions of the course, provision of information regarding assessments, and advice of resources such as Learning@Griffith.</strong></td>
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<td>Source material on Lab computers.</td>
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<td>2</td>
<td>Critique: beginning of class Assessment Item 1A – Pendulum Quiz – Principles of Animation Node based transformations</td>
<td><em>In class – create bouncing ball animation using traditional animation concepts.</em></td>
<td>Next Class – Assessment Item 1B: Animated Sequence&lt;br&gt;• Bouncing Ball&lt;br&gt;• Bouncing ball with roll (correct transformations)&lt;br&gt;Due beginning of Class Week3 (turn in to DropBox)&lt;br&gt;Assessment based on integration of Principles of Animation into animation sequence.</td>
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<td>Introducing Basic multiple balls with different weights.</td>
<td><em>Arcs, Squash &amp; Stretch, Timing</em>&lt;br&gt;• Top node for translate, orientation, squash&amp;stretch (only)&lt;br&gt;• Bottom node for scale/size and roll only</td>
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<td>3</td>
<td>Critique: beginning of class Assessment Item 1B – Bouncing Ball sequence Introducing Basic multiple balls with different weights.</td>
<td><em>In class – create 3 bouncing balls animation using traditional animation concepts.</em></td>
<td>Next Class – Assessment Item 1C: 3 bouncing balls with sound&lt;br&gt;Assessment based on integration of Principles of Animation into animation sequence.</td>
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<tr>
<td>4</td>
<td>Critique: beginning of class Assessment Item 1C – 3 bouncing balls with sound Introducing Basic lamp jump. Maintaining the character’s line of balance and conveying a sense of weight. Generating natural motion with arcs, follow-through, breaking joints, and drag Strategies for applying squash and stretch, exaggeration.</td>
<td><em>In class</em>&lt;br&gt;• Animate a jump with lamp in class (due in class that day)&lt;br&gt;• Start the sequence lamp and ball</td>
<td>Next Class Assessment Item 2A&lt;br&gt;• Functional lamp jump&lt;br&gt;• Blocking Animation -Jumping lamp with ball&lt;br&gt;Assessment based on integration of Principles of Animation into animation sequence.</td>
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<td>Academic Week</td>
<td>Tutorial/Presentation</td>
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<td>5</td>
<td>Critique: beginning of class Assessment Item 2A – Blocking of Lamp &amp; Ball sequence</td>
<td>Sequence lamp and ball with Sound</td>
<td>Next class: Assessment Item 2B: Final Jumping Lamp with Ball</td>
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<td>• Lights (color, manipulators, shadows)</td>
<td>Critiques of in-class and out-of-class exercise</td>
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<td>• Cameras</td>
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<td>• Applying Motion Blur</td>
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<td>• Render Globals</td>
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<td>6</td>
<td>Critique: beginning of class Assessment Item 2B – Lamp &amp; Ball sequence with sound</td>
<td>Walk cycle information</td>
<td>Next class: Assessment Item 3A: Rough Walk Cycle</td>
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<tr>
<td></td>
<td>Curve Editor</td>
<td>Assessment criteria – it must feel like it has weight</td>
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<td></td>
<td>• controlling interpolation,</td>
<td>Checklist — WalkCycle</td>
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<td></td>
<td>• editing keys,</td>
<td>You don’t “get it” if you don’t integrate the fact that walking</td>
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<td>• adding keys on curve to apply ease-in and ease-out with followthrough</td>
<td>is a process of catching yourself so you don’t fall to the ground.</td>
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<td>1. Successive breaking of joints in arms (follow-through)</td>
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<td>2. Hips and shoulders/torso twist opposite</td>
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<td>3. Body leans forward</td>
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<td>4. Body goes up and down (indicating the catching of weight</td>
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<td>5. Hips “tilt forward &amp; back” and “go up &amp; down” as foot placement takes place</td>
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<td>6. Head bobs up and down</td>
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<td>7. Foot flattens immediately after heel strike</td>
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<td>8. Spine bends</td>
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<td>9. Balance - body weight shifts from being over one foot to the other foot</td>
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<td>10. Timing - Body actions are not simultaneous, there is a follow-through</td>
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<td>from one part to another</td>
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<td>Walk cycle information</td>
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<td>Assessment criteria – it must feel like it has weight and incorporate the checklist items</td>
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<td>7</td>
<td>Critique: beginning of class Assessment Item 3A – Rough Walk cycle</td>
<td>Walk cycle information</td>
<td>Next class: Assessment Item 3B: Final Walk Cycle</td>
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<td>Assessment criteria – it must feel like it has weight and</td>
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<td>incorporate the checklist items</td>
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<tr>
<td>8</td>
<td>Critique: beginning of class Assessment Item 3B – Final Walk cycle</td>
<td>Emotional walk cycle</td>
<td>Next class: Assessment Item 3C: Emotional Walk Cycle</td>
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<td>• Set-Driven Key</td>
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<td>• Constraints</td>
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<td>• IK/FK switching</td>
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Mid-Semester Break
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<th>Academic Week</th>
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<td>9</td>
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</tbody>
</table>
| 10            | Critique: beginning of class Assessment Item 3C: **Emotional Walk Cycle**  
Assessment 3 requires all parts A, B, and C. | Beginning of Assessment 4  
Final Animation with dialogue – emphasis on motion and acting ability of characters  
• Students encouraged to use their own character  
• Students may team up on animation  
• Character must articulate - minimum of one-word | Next Class Assessment Item 4A  
Storyboard/Blocking/Rough  
• Intro to Blend Shapes and their use in generating facial expressions and lip sync.  
• Students will complete a simple exercise to create and apply a blend shape on an object.  
• Facial animation and lip sync in 3D – guidelines and techniques using and creating successful Blend Shapes for lip sync phonemes and facial expressions.  
• Combining lip sync with facial expression, head-tilts, and body movements and gestures.  
• Students will complete an exercise to make at least one blend shape for a facial expression.  
• be keyed first, last etc. | Individual consultations  
Emphasis on body language and weight  
• Importing a sound track and displaying in timeline.  
• Breaking down a sound track to identify phonemes  
In-class lip-sync exercise using provided character. The aim of this exercise is for students to learn strategies for keying lip-sync – for example, understanding how and when to key, and what should | Next Class Assessment Item 4B |
| 11            | Critique: beginning of class Assessment Item 4A  
Storyboard/Blocking/Rough  
• Intro to Blend Shapes and their use in generating facial expressions and lip sync.  
• Students will complete a simple exercise to create and apply a blend shape on an object.  
• Facial animation and lip sync in 3D – guidelines and techniques using and creating successful Blend Shapes for lip sync phonemes and facial expressions.  
• Combining lip sync with facial expression, head-tilts, and body movements and gestures.  
• Students will complete an exercise to make at least one blend shape for a facial expression.  
• be keyed first, last etc. |
| 12            | Critique: beginning of class Assessment Item 4B  
**WorkReel**  
• Emphasis on facial expression and body language. | Individual consultations | Next Class Assessment Item 4C  
animation with sound – music, sounds effects, dialogue |
| 13            | Critique: beginning of class Assessment Item 4C  
**Final with Sound**  
Animation sequence must be turned in on this date  
Resubmissions due June 21th | | |
**Lectures** – Introduction to technical and aesthetic concepts of 3D animation.
Lectures will include information on good stories and motion connected to class assignments.

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### ASSESSMENT

**Summary of Assessment**

<table>
<thead>
<tr>
<th>Item</th>
<th>Assessment Task</th>
<th>Weighting</th>
<th>Total Marks</th>
<th>Relevant Learning Outcomes</th>
<th>Due Date and Time</th>
</tr>
</thead>
</table>
| 1.   | Part 1A - Pendulum  
Part 1B – Bouncing Ball  
Part 1C – 3 Bouncing Balls with Sound | 20% | 2, 3, 4, 5, 6, | Part 1A due week 2  
Part 1B due week 3  
Part 1C due week 4 |
| 2.   | Part 2A – Lamp jump  
Part 2B – Lamp & Ball sequence | 20% | 1, 2, 3, 4, 5, 6 | Part 2A due week 5  
Part 2B due week 6 |
| 3.   | Part 3A – Rough Walk cycle  
Part 3B – Walk cycle  
Part 3C – Emotional Walk cycle | 30% | 1, 2, 3, 4, 5, 6 | Part 3A due week 7  
Part 3B due week 8  
Part 3C due week 10 |
| 4.   | Animated sequence  
Part 4A – Storyboard/Blocking/Rough  
Part 4B – WorkReel  
Part 4C – Final Animation with Sound | 30% | 1, 2, 3, 4, 5, 6 | Part 4A due week 11  
Part 4B due week 12  
Part 4C due week 13 |

**Assessment Details**

Assessment is according to the criteria specific to each item. All student work is to be submitted for assessment on or before the due date, and submitted at beginning of class time.

Students are required to submit all assessment items to qualify for a passing grade. Extensions will only be granted on the provision of a medical certificate or a letter from the student counsellor.

The assessments are designed to contribute to the learning outcomes stated earlier, and to the Griffith graduate skills listed below:

1. Effective communication
2. Technical Competency
3. Problem solving
4. Critical evaluation
5. Work autonomously and in teams
6. Creativity and innovation

Return of Assessment Items

Students will receive their marked assessments and feedback either via email as an attachment, or during class.

Assessment Criteria:

Late submissions:
All assessment items will incur a penalty of 15% per week off the total result for that item not turned in on due date. Unless otherwise stated in the individual assessment criteria, assessment items must be submitted to the dropbox on the due date so that files can be assessed.

Assessment 1 – Pendulum, Bouncing Ball, 3Bouncing Balls

Parts A,B,C – due weeks 2,3,4 beginning of class
Pendulum, and Bouncing Balls are fundamental movements that need to be done extremely well. They serve as vehicles to demonstrate not only how well you animate but also the incorporation of the Principles of Animation.
1. Pendulum – SlowIn and SlowOut motion, Timing, etc.
2. Bouncing Ball – Arcs, FollowThrough, Timing etc.
3. 3Bouncing Balls – all Principles of Animation

All animations submitted need to have your name in the title and assignment. The completed animation must be rendered out and submitted in QuickTime movie (H264 compression or will not open and be marked 0) and should be at least 400x300 in size. The Maya .mb file must also be submitted.

Assessment Criteria
1. Animation – Feeling of Weight!
   If the principles of Animation have been successfully integrated into your animation the viewer will have perceive a sense of weight from the animation. This is the beginning of communicating believability in your animation.
2. Technical and software
   Students are required to demonstrate competence in the application of the software tools and techniques required in the generation and refining of their animation. For example, their ability to control interpolation between key frames is one of the areas, which will be examined.
   Students’ aptitude with the software will also be judged by their ability to problem-solve and correct errors.

Assessment 2 – Lamp Animation

Parts A,B – Blocking/Animatic of Lamp & Ball, Animation of Lamp & Ball, due week 5,6 at beginning of class. Limited-Articulated Character: Lamp

A. Pre-production/Blocking/Animatic of Lamp & Ball
B. Animation (10 Seconds approximately) of Jumping Lamp & Ball

A. The animatic to be constructed using “stepped” 3D animation. The purpose of creating the animatic is so that students understand the importance of planning each shot, by considering camera position and animation, placement of character.
B. Animation of Lamp & Ball interaction. (Sound preferable but not mandatory).
   The completed animation must be rendered out to either a QuickTime movie file and should be at least 400x300 in size. The Maya .mb file must also be submitted. Additional props, textures etc. can be included in the scene but will not be assessed.

Assessment Criteria
1. Technical and software:
   Students are required to demonstrate competence in the application of the software tools and techniques required in the generation and refining of their animation.
2. Motion and Timing:
This criteria concerns the ability of the student to apply traditional principles and techniques to generate smooth and naturalistic motion in their animation. Has the student successfully employed ease-in and follow-through on character movement? The timing of the animation will be judged according to the student’s ability to create contrast in the pacing of the movements performed and in the efficacy of the timing to communicate the personality of the character and the mood of the scene.

3. Staging and Planning:
   Students must demonstrate their ability to apply the concepts of framing, staging, posing of characters, and planning of effective camera moves in the construction of a clear and coherent 3D animatic. The purpose of creating the animatic is so that students understand the importance of planning each shot in advance, by considering camera position and animation, placement of characters and props, shot duration, lighting issues etc.

Assessment 3 – Walk Cycle

Parts A,B,C – Rough Walk Cycle, Walk Cycle, WalkCycle with Feeling due weeks 7, 8, 10 at beginning of class.

Fully-Articulated Character
A. Rough Walk Cycle
B. Walk Cycle
C. WalkCycle that reveals what the character is feeling

A. Rough WalkCycle to be constructed using the checklist of what needs to be in a walk. May use your own character, a rigged character provided, or rigged character from another source.
B. Final Walk Cycle needs to feel like it has weight. All parts must be coordinated with followthrough and timing. Needs two complete walk cycles animated (not one).
C. WalkCycle with Feeling should reflect what the character is feeling (i.e. joy, sad, anger, pain, contempt, aversion, brave, dejection, despair, shame)

http://changingminds.org/explanations/emotions/basic%20emotions.htm

Assessment Criteria
1. Technical and software:
   Students are required to demonstrate competence in the application of the software tools and techniques required in the generation and refining of their animation.

2. Motion and Timing:
   This criteria concerns the ability of the student to apply traditional principles and techniques to generate smooth and naturalistic motion in their animation. Has the student successfully employed ease-in and follow-through on character movement? The timing of the animation will be judged according to the student’s ability to create contrast in the pacing of the movements performed and in the efficacy of the timing to communicate the personality of the character and the mood of the scene.

3. Staging and planning:
   Students must demonstrate their ability to apply the concepts of framing and staging.

Assessment 4 – Animation Story Sequence

Parts A,B,C – Blocking/Animatic, Rough Animation, WorkReel. Final Animation due weeks 11, 12, 13 at the beginning of class.

10-30 seconds of combined lip-sync (minimum one word), facial, and body animation.
- This sequence may be a dialogue between two characters or an action of entering and exiting the scene.
- The animation must be rendered out to a QuickTime, H264 compression movie file (anything else will not open and be marked 0) and should be at least 640 x 480 in size.
- The Maya .mb file must also be submitted. Additional props, textures etc. can be included in the scene but will not be assessed.
- A text file indicating work undertaken is to be included.

Fully-Articulated Character(s)
A. Blocking/Animatic
B. Rough
C. WorkReel
D. Final Animation with Sound
Assessment Criteria
1. Technical and software - development of professional skills:
   Demonstrated ability to utilise the relevant software tools to generate and edit the animation.
2. Followthrough:
   Students must demonstrate their ability to apply the concepts of framing, staging, posing, and animation of characters in the construction of a clear and coherent 3D animatic/animation. How well has the student committed to and followed-through on their responsibilities towards the completion of the project? Does their contribution to the project represent a fair distribution of labour? Does their contribution to the animation indicate that they communicated effectively with the other team member/s in order to achieve a harmonious result?
3. Aesthetics and animation – application of knowledge:
   This criteria concerns itself with the ability of the student to generate effective animation. Aspects of the animation such as timing, synchronisation, and smoothness of the animation will be examined in order to determine the student’s understanding of animation concepts and their ability to apply what they have learned. Additionally, the facial expressions and body animation will be judged on their ability to support and enhance the action. How convincingly is the character emoting and communicating to the audience how it is feeling? Has the student neglected to animate important body areas?

is an extensive forum where much expert advice can be found. The FAQ section has some gems of information.
17. http://www.lynda.com Lynda Weinman’s massive site with libraries of tutorials in many types of software, including Maya. Much of it is free.

Software:
Maya Complete version 8.5 is to be used. This software is installed on the computers in the Animation computer lab room S02_5.31. Students wishing to purchase the software for use at home might like to investigate the student pricing available through the Alias web site www.autodesk.com or www.journeyed.com
The free Personal Learning Edition is available for download at this site.
Adobe Photoshop is also used to create textures for mapping onto the models. This is also installed on the computers in S02_5.31.