GAME 431: Advanced Game Animation I

Term: Spring Semester 2018
Section: 001
Prerequisites: C or better in Game 398

Instructor: Professor Gregory Grimsby
Office: Art and Design Building Rm 2021
Email: ggrimsby@gmu.edu

3 Credit Hours

Studio/Lecture: FRI 10:30AM to 1:10 PM
Room: Art and Design Building Rm 2002
Contact: 703-993-5733
Office Hours: TH 10:30AM to 11:30 AM
FRI 1:30PM-2:00PM or by appointment
Website: http://gregorygrimsby.com/

Course Description:
Students will learn and practice advanced 3D character animation skills. Students animate from reference using the principles of weight, follow-through, and anticipation. Projects focus on creating interactive motions for characters using commercial software and game engines. Intermediate rigging will also be covered. Students are expected to have intermediate modeling skills in the software used in this course.

Course Structure
Class time will focus on animation exercises, practice, and discussion of techniques. Out of class assignments focus on skill building and reinforcing class exercises. Submitted work is critiqued to improve understanding of principles. Students should come prepared to work on assignments in class on any planned work days.

Objectives:
Students who complete this course will be able to:
- Create animations demonstrating effective use of weight.
- Create animation cycles with effective timing and pacing.
- Proficiently animate secondary animation.
- Accurately animate from reference material.
- Create a variety of rigs for bipedal and non-bipedal characters.
- Critique and analyze their own animations and the works of others in an articulate and discerning fashion.

Assignments
Students are responsible for several assignments related to lecture material. These assignments are designed to teach and assess improvement in specific areas. There are several assignments for each discipline. It is the students' responsibility to refer to Blackboard to see the exact date and time assignments are due.

Final Project
During our last class, students will present their completed final project animation. This will be a character animated through a full suite of motions and integrated into the Unity3D game engine. Specifications will be given in Blackboard. The project will take more time and effort than a typical assignment. Plan accordingly.

Grading Criteria
Most assignments are graded on a 100 point scale. The exception to this is the final project assignment, which is worth 200 points.

To receive a grade of "A" a student must earn a minimum of 90% of the maximum coursework point total.
To receive a grade of "B" a student must earn a minimum of 80% of the maximum coursework point total.
To receive a grade of "C" a student must earn a minimum of 70% of the maximum coursework point total.
To receive a grade of "D" a student must earn a minimum of 60% of the maximum coursework point total.
Failure to receive a "D" grade will result in a grade of "F".

**Plus and Minus grades are used for A, B, and C's to provide more assessment granularity.
Late Work and Make-up Policy

Late work is only accepted at the instructor’s discretion, and a deduction will be applied to the grade in most situations. Failure to turn in work on time will result in a 0 for the assignment. Meeting deadlines is one of the most important aspects of art production. Please pay careful attention to the DUE DATE & TIME for each assignment. DO NOT PRO-CRASTINATE!!! If extenuating circumstances prevent a student from finishing an assignment, the student must contact the instructor BEFORE the assignment is due.

Attendance

Attendance is mandatory. Unexcused absences reduce a student’s final grade using the chart below. Two tardies equal one absence. Email the instructor if you know you will be missing class.

Deductions for Absences

| 1 to 2 | No deduction |
| 3     | -1 letter grade |
| 4     | -2 letter grades |
| 5+    | Grade of ‘F’ |

Each class is a building block for the next. Absent students miss important material and typically do not do well in this course. The video tutorials do not replace the lectures but supplement them. In the event that you have to miss class, you are responsible for making up the work and completing the assignments on time.

Required Class Material:

It is the student’s responsibility to obtain consistent, stable access to 3DS MAX 2014 and other software used in the class (listed below). Students who can use the lab to complete all assignments are not required to have a computer to do the coursework.

Software Needed:
The software below is needed in this course. It is installed on all class and game lab computers. Students do not need to acquire this software IF they are able to use the lab to complete assignments

- 3ds max 2018 (student version available at http://students.autodesk.com)
- Unity3D (free version available for download from www.unity3d.com)
- Zip or Rar archive program
- FRAPS
- Handbrake
- Online backup, aka Dropbox.
  It is suggested that students use online backup service to prevent their project files from being lost. Every semester multiple students report lost work due to damaged or misplaced thumbdrives, corrupted files, or dead hard drives. Dropbox, Google Drive, and One Drive are example services that students should explore. Most services offer free storage that is sufficient in size for this course.

Resources

Required Books: (not at the student bookstore. So try amazon)

Game Lab

In the Art and Design building, room 2002 (subject to change) is a monitored computer lab available outside of class hours for students to work on their projects.

Students will need at least 10 hours outside of class each week to complete coursework.
GMU Honor Code:

GMU is an Honor Code university; please see the Office for Academic Integrity for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else’s work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

The integrity of the University community is affected by the individual choices made by each of us. GMU has an Honor Code with clear guidelines regarding academic integrity. Three fundamental and rather simple principles to follow at all times are that: (1) all work submitted be your own; (2) when using the work or ideas of others, including fellow students, give full credit through accurate citations; and (3) if you are uncertain about the ground rules on a particular assignment, ask for clarification. No grade is important enough to justify academic misconduct. Plagiarism means using the exact words, opinions, or factual information from another person without giving the person credit. Writers give credit through accepted documentation styles, such as parenthetical citation, footnotes, or endnotes. Paraphrased material must also be cited, using MLA or APA format. A simple listing of books or articles is not sufficient. Plagiarism is the equivalent of intellectual robbery and cannot be tolerated in the academic setting. If you have any doubts about what constitutes plagiarism, please see me.

Disability Accommodations

If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 993-2474, http://ods.gmu.edu. All academic accommodations must be arranged through the ODS.

Privacy

Students must use their MasonLive email account to receive important University information, including messages related to this class. See http://masonlive.gmu.edu for more information.

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## Course Schedule-Animation

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>I</td>
<td>1/26</td>
<td>Intro; Animation Rotoscoping from video source</td>
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<tr>
<td></td>
<td></td>
<td>intro, syllabus review;</td>
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<tr>
<td>II</td>
<td>2/2</td>
<td>Walk Cycles</td>
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<td></td>
<td></td>
<td><strong>Animation Due: Rotoscoping:</strong></td>
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<tr>
<td>III</td>
<td>2/9</td>
<td>Weight, Impact and Settling</td>
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<tr>
<td>IV</td>
<td>2/16</td>
<td>Animating with TCB, Curves, and the Workbench</td>
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<td><strong>Animation Due:</strong> Mr Heavy Anims</td>
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<tr>
<td>V</td>
<td>2/23</td>
<td>Non-Standard rigs</td>
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<tr>
<td>VI</td>
<td>3/2</td>
<td>Lifting Heavy Things</td>
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<td></td>
<td></td>
<td><strong>Animation Due:</strong> Mech Anims</td>
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<tr>
<td>VII</td>
<td>3/9</td>
<td>Emotes</td>
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<tr>
<td>VIII</td>
<td>3/16</td>
<td>Spring Break</td>
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<tr>
<td>IX</td>
<td>3/23</td>
<td>Attack Animations –Emphasis on Timing</td>
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<td><strong>Animation Due:</strong> Non-Bipedal</td>
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<td>X</td>
<td>3/30</td>
<td>Dice animation</td>
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<td>XI</td>
<td>4/6</td>
<td>TBD</td>
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<td></td>
<td><strong>Animation Due:</strong> 4 emote animations</td>
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<tr>
<td>XII</td>
<td>4/13</td>
<td>TBD</td>
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<tr>
<td>XIII</td>
<td>4/20</td>
<td>TBD</td>
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<td><strong>Animation Due:</strong> Melee weapon animations</td>
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<tr>
<td>XIV</td>
<td>4/27</td>
<td>Critiquing Animations</td>
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<tr>
<td>XV</td>
<td>5/4</td>
<td>Capstone Presentation</td>
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<td>-10:30AM to 1:15PM</td>
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<td></td>
<td></td>
<td><strong>Capstone Assignment Due</strong></td>
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!!The Syllabus and Assignment Schedule may be revised, based on the instructor’s discretion, to meet the needs of the class!!