ADVANCED DIGITAL ANIMATION TECHNIQUES (ADAT)

COURSE NUMBER: DIG4306C  CREDIT HOURS: 3.0
SEMESTER/YEAR: SPRING 2017  CLASS LOCATION: OORC, NORMAN (NRG) 0120
CLASS MEETING TIME(S): M 1:55-2:45/W 1:55-3:50
INSTRUCTOR: Hyuk(David) Jang  OFFICE LOCATION/HOURS:
Contact via Canvas Inbox
CONTACT PHONE: (352) 294-2000  COURSE WEBSITE:
CONTACT EMAIL: Thursday 5:00 – 6:00 pm / Office 118
DIGITALWORLDS.UFL.EDU/PROGRAMS/BA-IN-DAS/

COURSE DESCRIPTION
This course focuses on advanced work in the practical principles and techniques of 3D software animation environments. Includes quad mesh design and editing for complex motions, shading techniques and lighting, various camera projection models, rendering techniques, and efficient use of GPU resources for photorealistic real-time 3D animation.

PREREQUISITE KNOWLEDGE AND SKILLS
DAR major and DIG 3305C with minimum grade of C or written permission of Instructor.

PURPOSE OF COURSE
To familiarize students with the core skills used in professional 3D animation using an industry standard tool. Students will continue to gain practical experience through graph editing, timing, and spacing key frames. This course is intended to build upon the studies completed in 3D Digital Animation Techniques, which are applied to create more advanced animation projects.

COURSE GOALS AND/OR OBJECTIVES: By the end of this course, students will be able to:
1. Demonstrate a complete workflow for 3D character animation in the film and game industries.
2. Articulate the differences between animation pipelines for films and those for video games.
3. Create a simple dynamic simulation in Maya.
4. Create a key framed animation with a complex body motion.
5. Export game-biped animation for video games.

COURSE SCHEDULE:
The course incorporates lecture, in-class exercises and assignments to apply and reinforce skills learned. Additionally, students will be asked to participate in weekly online critiques to strengthen their skills in analysis and critical thinking. Individual assignments will be explained in detail as the course progresses.

The FINAL EXAM TIME SCHEDULED FOR THIS COURSE will be announced in advance of each semester by the University of Florida Registrar’s Office at http://www.registrar.ufl.edu/soc/
Final Presentation Date: April 19th (Wed)
Online students must write a review in the Canvas system to receive full points.
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Assignments/Quizzes</th>
</tr>
</thead>
</table>
| 1    | Course Objectives  
Overview of course and objectives  
Reviews from the introduction to 3D animation course  
  • Maya 2017  
  • Recommended reading  
  • Online Help | Review the class lecture  
Be familiar with the new Maya interface  
Getting ready for the first assignment |
| 2    | Reviews on animation principles  
  • Timing  
  • Spacing  
  • Breakdowns  
  • In-betweens | Assignment 1: Motion Practice |
| 3 Holiday (Monday) | Game Biped Animation Part I  
  • Animations in game development  
  • Looping animation | Assignment 2: Create a looping stationary animation |
| 4    | Game Biped Animation Part II  
  • Actions for interactions | Assignment 3: Create an action move |
| 5    | Reviews on Lip Sync  
  • Dialogue Animation  
  • Face controls  
  • Emotion study | Assignment 4: Short Dialogue |
| 6    | Animation with Paint Effects  
  • Organic Plant Animation | Assignment 5: Time Lapse |
| 7    | Liquid simulation Part I  
  • Basic fluid effects in Maya  
  • Working with particles | Assignment 6: Dynamic Simulation Part 1 |
| 8    | Liquid Simulation Part II  
  • Liquid simulation for realistic drinks | Assignment 7: Dynamic Simulation Part 2 |
| 9    | Dynamics  
  • Maya nCloth  
  • Reviews/Critiques | Assignment 8: Final project Treatment |
| 10   | Advanced Action Part I  
  • Blocking Stage  
  • Draw a planning sheet | Assignment 8: Advanced Movement |
| 11   | Advanced Action Part II | Assignment 9: Adding breakdowns |
## Required Textbooks and Software:

- Autodesk Maya 2017 (Educational version is free for students) [DOWNLOAD](#)
- Adobe Photoshop CS6/CC
- Adobe After Effects CS6/CC
- Webcam setup (ONLINE students only)
- Two-monitor setup for software instruction (ONLINE students only)

## Recommended Materials:

- **Mastering Autodesk Maya 2016**: Autodesk Official Press by Todd Palamar
  Also View in Google Play
  [https://play.google.com/store/books/details/Todd_Palamar_Mastering_Autodesk_Maya_2016?id=A5YvCgAAQBAJ](https://play.google.com/store/books/details/Todd_Palamar_Mastering_Autodesk_Maya_2016?id=A5YvCgAAQBAJ)
  And iTunes
  Williams, Richard. The Animator’s Survival Kit App:
- Lynda.com, Online tutorial ([FREE access for UF students](#))
COURSE FEES:

Material and supply fees are assessed for certain courses to offset the cost of materials or supply items consumed in the course of instruction. A list of approved courses and fees is published in the Schedule of Courses each semester. (UF-3.0374 Regulations of the University of Florida)

Material and supply and equipment use fee information is available from the academic departments or from the schedule of courses (Florida Statutes 1009.24). The total M&S for this class is $54.26

EVALUATION OF GRADES

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Total Points</th>
<th>Percentage of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation – Students are expected to actively participate in class discussions, both in class as well as in class online forums outside class meetings.</td>
<td>100</td>
<td>10%</td>
</tr>
<tr>
<td>Weekly Assignments – Weekly assignments are due the first session of each week unless otherwise noted. The work will be uploaded to CANVAS prior to the beginning of class otherwise the work will be considered late.</td>
<td>550</td>
<td>55%</td>
</tr>
<tr>
<td>Final Project – Final Project is the final result of the semester long effort in learning. It is expected that in this final project, students employ the principles and techniques they have learned during the semester.</td>
<td>350</td>
<td>35%</td>
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GRADING SCALE:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>% Equivalency</th>
<th>GPA Equivalency</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>94 – 100%</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>90 – 93%</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>87 – 89%</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>84 – 86%</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>80 – 83%</td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td>77 – 79%</td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td>74 – 76%</td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td>70 – 73%</td>
<td>1.67</td>
</tr>
<tr>
<td>D+</td>
<td>67 – 69%</td>
<td>1.33</td>
</tr>
<tr>
<td>D</td>
<td>64 – 66%</td>
<td>1.00</td>
</tr>
<tr>
<td>D-</td>
<td>60 – 63%</td>
<td>.67</td>
</tr>
<tr>
<td>E, I, NG, S-U, WF</td>
<td>0.00</td>
<td></td>
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More information on grades and grading policies is here: [https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx](https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx)
COURSE POLICIES:

PARTICIPATION / ATTENDANCE POLICY
We value participation more than mere attendance. Each Instructor is responsible for communicating the specific details of what percentage of your grade (if any) will be assigned to participation, and how class participation will be measured and graded. Real Time [RT] interaction with your peers and the Instructor will empower you to greater achievement.

MAKE-UP POLICY
Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

COURSE TECHNOLOGY
The students will be required to have access to, and use a personal computer with the access to the Internet. Word editing software will be required for written assignments.

COURSE COMMUNICATIONS
Students can communicate directly with the Instructor regarding the course material through the course management system (CANVAS).

VIDEO LECTURE CAPTURE
High-quality video lecture capture of this course is available only for enrolled students. These video captures are edited and posted within 24-48 hours of the class meeting for the benefit of the Your Own Time [YOT] students and to offer the potential for review by on-campus and Real Time [RT] on-line students. For the on-campus and RT students, watching lectures in lieu of attending and participating in class is NOT acceptable. Your Instructor may provide you with this semester’s login information during the first week of class. It is not permissible to share or distribute video login information to anyone other than officially enrolled students of this course. Lecture videos can be found at https://vimeo.com/digitalworlds.

UF POLICIES:

UNIVERSITY HONESTY POLICY
UF students are bound by The Honor Pledge that states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (https://www.dso.ufl.edu/sccr/process/student-conducthonor-code/) specifies a number of behaviors
that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

**CLASS DEemeanor**
Students are expected to arrive to class on time and behave in a manner that is respectful to the instructor and to fellow students. Please avoid the use of cell phones and restrict eating to outside of the classroom. Opinions held by other students should be respected in discussion, and conversations that do not contribute to the discussion should be held at minimum, if at all.

**STUDENTS REQUIRING ACCOMMODATIONS**
Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

**NETIQUETTE COMMUNICATION COURTESY**
All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats, more information can be found at: [http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf](http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf)

**ONLINE COURSE EVALUATIONS**
Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at [https://evaluations.ufl.edu](https://evaluations.ufl.edu). Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at [https://evaluations.ufl.edu/results/](https://evaluations.ufl.edu/results/).
HEALTH AND WELLNESS

U Matter, We Care
If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center
http://www.counseling.ufl.edu/cwc/Default.aspx, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)
Student Health Care Center, 392-1161.

University Police Department, 392-1111 (or 9-1-1 for emergencies). http://www.police.ufl.edu/

ACADEMIC RESOURCES

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. https://lss.at.ufl.edu/help.shtml.


Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. http://teachingcenter.ufl.edu/


Student Complaints Campus:

On-Line Students Complaints:
http://www.distance.ufl.edu/student-complaint-process

Disclaimer: This syllabus represents the instructor’s current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.