# Cover Sheet: Request 13733

**DIG 4XXX 3D Character Animation**

## Info

<table>
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<tr>
<th>Process</th>
<th>Course</th>
<th>New</th>
<th>Ugrad/Pro</th>
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<tr>
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<td></td>
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<tr>
<td>Submitter</td>
<td>Phillip Klepacki <a href="mailto:pklepacki@arts.ufl.edu">pklepacki@arts.ufl.edu</a></td>
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## Actions

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<td>CFA - Digital Worlds 015851001</td>
<td>James Oliverio</td>
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<td>College</td>
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<td>CFA - College of Fine Arts</td>
<td>Jennifer Setlow</td>
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Course|New for request 13733

Info

Request: DIG 4XXX 3D Character Animation
Description of request: Creation of new course that teaches techniques for 3D character animations.
Submitter: Phillip Klepacki pklepacki@arts.ufl.edu
Created: 3/7/2019 2:30:21 PM
Form version: 1

Responses
Recommended Prefix DIG
Course Level 4
Number XXX
Category of Instruction Advanced
Lab Code None
Course Title 3D Character Animation
Transcript Title 3D CHARACTER ANIM
Degree Type Baccalaureate

Delivery Method(s) On-Campus, Online
Co-Listing No
Co-Listing Explanation N/A
Effective Term Fall
Effective Year 2019
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 3

Course Description This course teaches techniques for 3D character animations. Students will practice character development, pipeline management, procedural framework simulation, and basic rigging alongside studies of motion picture animation. By the end of the course, students will master industry-standard tools to animate basic 3D objects, 3D bipedal motion, and key-framing.

Prerequisites MAJOR=DAR & DIG4306C(C)
Co-requisites N/A

Rationale and Placement in Curriculum This course expands students’ existing knowledge of character animation, posing, and timing, through iterative feedback on in-progress development in 3D character animation. Students will create a demo reel that meets the industry standard beyond foundational skills.

Course Objectives Students will complete 5 long form animations (greater than 300 frames) and regular posing exercises to:
1. Practice timing, slow ins and slow outs, blocking, breakdowns, spline, as well as polish passes for arcs and secondary action
2. Translate straight ahead and pose to pose 3D animation
3. Analyze and implement shot based character development and appeal, acting, reference filming, and follow through and overlapping action
4. Evaluate and apply real life reference into action lines and using pushed poses, incorporating squash and stretch and exaggeration
5. Expand upon foundations of solid drawing, anticipation, and staging to create dynamic shot compositions.


Gilbert, Wayne. Simplified Drawing for Planning Animation
**Weekly Schedule of Topics**  
**Week1:** Overview of course and objectives. Overview of materials and software. Project formats and naming conventions. Assessment of previous animations and establishing baseline fundamental development plans.  
**Week2:** History of acting, Story and character development basics for short films, P1 Concept, Reference and Blocking Checkpoint.  
**Week3:** Investigation into the 9 principles of acting, P1 Spline Checkpoint.  
**Week4:** Laban Movement analysis. P1 Animation Polish Checkpoint.  
**Week5:** Cartoony vs. Realistic Animation analysis. P2 Concept, Reference and Blocking Checkpoint.  
**Week6:** Shot composition for moving cameras. P2 Spline Checkpoint.  
**Week7:** Character design edits for pre-rigged assets. P2 Animation Polish Checkpoint.  
**Week8:** Live action acting analysis. Anatomy of the dramatic scene. P3 Concept, Reference and Blocking Checkpoint.  
**Week9:** Multiple character scene management techniques. ATOM Import/Export. P3 Spline Checkpoint.  
**Week10:** Rigging fundamentals-Set Driven Keys. P3 Animation Polish Checkpoint.  
**Week11:** Rigging fundamentals continued - vertex deformations and joint chains. P4 Concept, Reference and Blocking Checkpoint.  
**Week12:** Rigging fundamentals continued – IK and IK Spline handles. Lattice and cluster deformers. P4 Animation Spline Checkpoint.  
**Week13:** Advanced rendering/compositing techniques. P4 Animation Polish Checkpoint. P5 Concept, Reference and Blocking Checkpoint.  
**Week14:** Render farm basics. Dynamic hair simulation. P5 Animation Spline Checkpoint.  
**Week15:** Editing video and sound for animation. Foley sound fundamentals. P5 Polish Checkpoint.  
**Week16:** Review finished animation (playblast) for final project.  

**Links and Policies** All required links and policies are included in the syllabus uploaded to this submission.  
**Grading Scheme**  
- Participation (10%)  
- Assignments (65%)  
- Final Project (25%)  
**Instructor(s)** To be determined
3D CHARACTER ANIMATION

INSTRUCTOR: Aaron C. Karlson
CLASS LOCATION: TBA

SEMESTER/YEAR: FALL 2019
CLASS MEETING TIME(s): TBA

OFFICE LOCATION/HOURS: TBA
CONTACT PHONE: (352) 294-2000

CREDIT HOURS: 3.0
COURSE NUMBER: DIG4XXX

CONTACT EMAIL: Canvas
COURSE COMMUNICATION: UF E-LEARNING

COURSE DESCRIPTION
This course teaches techniques for 3D character animations. Students will practice character development, pipeline management, procedural framework simulation, and basic rigging alongside studies of motion picture animation. By the end of the course, students will master industry-standard tools to animate basic 3D objects, 3D bipedal motion, and key-framing.

PREREQUISITE KNOWLEDGE AND SKILLS
- DAR major and DIG4306C

PURPOSE OF COURSE
This course expands students’ existing knowledge of character animation, posing, and timing, through iterative feedback on in-progress development in 3D character animation.

COURSE GOALS AND/OR OBJECTIVES: Students will complete 5 long form animations (greater than 300 frames) and regular posing exercises to:
1. Practice timing, slow ins and slow outs, blocking, breakdowns, spline, as well as polish passes for arcs and secondary action.
2. Translate straight ahead and pose to pose 3D animation
3. Analyze and implement shot based character development and appeal, acting, reference filming, and follow through and overlapping action
4. Evaluate and apply real life reference into action lines and using pushed poses, incorporating squash and stretch and exaggeration
5. Create dynamic shot compositions by expanding upon foundations of solid drawing, anticipation, and staging

COURSE SCHEDULE:
This course incorporates lectures, feedback and critique, and in class work sessions. 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/

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Assignments/Quizzes</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Topic</th>
<th>Details</th>
<th>Assignments</th>
</tr>
</thead>
</table>
| 1 | Overview of course and objectives | **Assign Project 1:** Character Animation Assignment 1  
Posing exercise 1  
Due: -P1 Checkpoint 1 |
| 2 | History of acting  
Story and character development basics for short films  
P1 Concept, Reference and Blocking Checkpoint | Due: -P1 Checkpoint 2  
P1 Checkpoint 3  
Due: -Posing exercise 1 |
| 3 | Investigation into the 9 principles of acting  
P1 Spline Checkpoint | Due: P1 Checkpoint 4  
P1 Checkpoint 5 |
| 4 | Laban Movement analysis  
P1 Animation Polish Checkpoint | **Assign Project 2:** Character Animation Assignment 2  
Posing exercise 2  
Due: Animation 1  
P2 Checkpoint 1 |
| 5 | Cartoony vs. Realistic Animation analysis  
P2 Concept, Reference and Blocking Checkpoint | Due: -P2 Checkpoint 2  
P2 Checkpoint 3  
Due: -Posing exercise 2 |
| 6 | Shot composition for moving cameras  
P2 Spline Checkpoint | Due: P2 Checkpoint 4  
P2 Checkpoint 5 |
| 7 | Character design edits for pre-rigged assets  
P2 Animation Polish Checkpoint | **Assign Project 3:** Character Animation Assignment 3  
Posing exercise 3  
Due: Animation 2  
P3 Checkpoint 1 |
| 8 | Live action acting analysis  
Anatomy of the dramatic scene  
P3 Concept, Reference and Blocking Checkpoint | Due: -P3 Checkpoint 2  
P3 Checkpoint 3  
Due: -Posing exercise 3 |
| 9 | Multiple character scene management techniques  
ATOM Import/Export  
P3 Spline Checkpoint | Due: P3 Checkpoint 4  
P3 Checkpoint 5 |
| 10 | Rigging fundamentals-Set Driven Keys  

P3 Animation Polish Checkpoint | Assign Project 4:  
Character Animation Assignment 4  
Posing exercise 4  
Due: P3 Checkpoint 4  
Animation 2  
P4 Checkpoint 1 |
| 11 | Rigging fundamentals continued - vertex deformations and joint chains  
P4 Concept, Reference and Blocking Checkpoint | Due: P4 Checkpoint 2  
P4 Checkpoint 3  
Due: -Posing exercise 4 |
| 12 | Rigging fundamentals continued – IK and IK Spline handles  
Lattice and cluster deformers  
P4 Animation Spline Checkpoint | Due: P4 Checkpoint 4  
P4 Checkpoint 5 |
| 13 | Advanced rendering/compositing techniques  
P4 Animation Polish Checkpoint  
P5 Concept, Reference and Blocking Checkpoint | Assign FINAL:  
Character Animation Assignment 5  
Posing exercise 5  
Due: Animation 4  
P5 Checkpoint 1 |
| 14 | Render farm basics  
Dynamic hair simulation  
P5 Animation Spline Checkpoint | Due: P5 Checkpoint 2  
P5 Checkpoint 3  
Due: -Posing exercise 5 |
| 15 | Editing video and sound for animation  
Foley sound fundamentals  
P5 Polish Checkpoint | Due: FINAL Checkpoint 4  
P5 Final due |
| 16 | Review finished animation (playblast) for final project | Due before exam week:  
Post mortem assessment |

**REQUIRED TEXTBOOKS AND SOFTWARE:**

2. Gilbert, Wayne. *Simplified Drawing for Planning Animation*  
3. Autodesk Maya 2019 Educational Version (Free for students) [DOWNLOAD]  
4. Adobe Photoshop CC 2019  
5. Adobe After Effects CC 2019
DIG4XXX – 3D CHARACTER ANIMATION

6. 3 Button Mouse
7. Sketchbook 9” x 12”

RECOMMENDED MATERIALS:

3. Lynda.com, Online Tutorials *(Free access for UF students)*

COURSE FEES:

Course 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 course fee for this class is $0.00

The total course fee for each course is listed on the UF Schedule of Courses. (https://registrar.ufl.edu/soc/).

EVALUATION OF GRADES

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<tr>
<th>Assignment</th>
<th>Total Points</th>
<th>Percentage of Grade</th>
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</thead>
<tbody>
<tr>
<td><strong>Attendance and Participation</strong> – Students are expected to actively participate in class by bringing project progress with them and actively engaging in feedback and critique. Posing demos will also be part of this grade.</td>
<td>100</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Assignment 1 What’s in the Box?</strong> - Students will animate a character interacting with and opening a box. Particular attention will be paid to the physicality of the performance and the emotional responses of the character at the beginning, middle, and end of the piece.</td>
<td>100</td>
<td>13%</td>
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<tr>
<td><strong>Assignment 2 Advanced Character/Camera Motion</strong> – Students will animate a moving camera following a character running/jumping through a scene using gymnastics or free-running as reference.</td>
<td>100</td>
<td>13%</td>
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<tr>
<td><strong>Assignment 3 Realistic Dialogue</strong> – Students will animate a piece of dialogue with up to 2 characters utilizing acting principles with focus on realistic movement.</td>
<td>100</td>
<td>13%</td>
</tr>
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</table>
**Assignment 4 Cartoony Dialogue** – Students will animate a piece of dialogue with up to 2 characters utilizing extreme exaggeration and motion with focus on arcs and solid posing.

**Assignment 5** – Students will animate a short story based on pre-recorded audio and finalize all components such as animation, texturing, lighting, and rendering.

**Final Project** – This turn-in will be a fully rendered version of one of the 5 weekly projects with sound effects and title cards.

### Grading Scale:

<table>
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<td>4.0</td>
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<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>
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<tr>
<td>B</td>
<td>84 – 86%</td>
<td>3.00</td>
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<tr>
<td>B-</td>
<td>80 – 83%</td>
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<tr>
<td>C+</td>
<td>77 – 79%</td>
<td>2.33</td>
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<tr>
<td>C</td>
<td>74 – 76%</td>
<td>2.00</td>
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<tr>
<td>C-</td>
<td>70 – 73%</td>
<td>1.67</td>
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<tr>
<td>D+</td>
<td>67 – 69%</td>
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<tr>
<td>D</td>
<td>64 – 66%</td>
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<td>D-</td>
<td>60 – 63%</td>
<td>.67</td>
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<tr>
<td>E, I, NG, S-U, WF</td>
<td>0 – 59%</td>
<td>0.00</td>
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More information on grades and grading policies is here: [https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/](https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/)

### Course Policies:

**Participation / Attendance**

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. Three unexcused absences will result in the drop of one letter grade (i.e. the student will now only be able to obtain a maximum grade of ‘B’ for the course). Students should contact the instructor 24 hours before class time (If possible) if they wish to be considered for an excused absence. Upon return to class, students must provide documentation for
their absence. Students should communicate with the instructor about their absences and be proactive about their course work.

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/UGRD/academic-regulations/attendance-policies/

**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/UGRD/academic-regulations/attendance-policies/

**COURSE TECHNOLOGY**
The University of Florida and Digital Worlds requires that students have access to and on-going use of a laptop/mobile computer for DIG courses in order to be able to function in the current learning environment. Students are required to access electronic forms of information, submit assignments and communicate with other students and faculty electronically. DW requires each student’s mobile computer to meet certain minimum specs for heavy graphics use, the requirements documented below must be met.

DW Computer Requirements

**COURSE COMMUNICATIONS**
Students can communicate directly with the Instructor regarding the course material through UF e-Learning. http://elearning.ufl.edu/

**COURSE TECHNOLOGY SUPPORT:**
The Technology Support Center provides computer support for Digital Worlds students who access Visimeet, lecture recordings, student equipment, facilities and other technology-based resources. http://digitalworlds.ufl.edu/support

For computer assistance related to Visimeet, lecture recordings, student equipment, and facilities request please Submit a Help Ticket or email support@digitalworlds.ufl.edu.

For support related to account services, technical consulting, mobile device services, software services, administrative support, application support center, and learning support services, please contact the UF Computing Help Desk available 24 hours a day, 7 days a week at 352-392-4357 or helpdesk@ufl.edu.
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 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 DEMEANOR
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) 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

ONLINE COURSE EVALUATIONS
Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations. 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/.

CAMPUS RESOURCES

HEALTH AND WELLNESS
U Matter, We Care
DIG4XXX – 3D CHARACTER ANIMATION

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
https://counseling.ufl.edu/, 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.

Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling. https://career.ufl.edu/

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.