UVU UTAH VALLEY UNIVERSITY™

DAGV 2330 Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: https://catalog.uvu.edu/

Semester: Spring
Course Prefix: DAGV
Course Title: Introduction to Rigging

Year: 2025
Course and Section #: 2330 301
Credits: 2

Course Description

This course introduces the foundational concepts and techniques of rigging in animation and game development. Rigging is the process of creating systems, deformations, and controls that enable digital assets to be animated effectively. This course covers rigging fundamentals using industry techniques and conventions, focusing on developing animator-friendly prop and character rigs. By the end of the course, students will gain a solid understanding of rigging principles and the practical skills necessary to bring digital assets to life.

Course Attributes

This course has the following attributes:

☐ General Education Requirements
☐ Global/Intercultural Graduation Requirements
☐ Writing Enriched Graduation Requirements
☒ Discipline Core Requirements in Program
☐ Elective Core Requirements in Program
☐ Open Elective
Other: *Click here to enter text.*

Instructor Information

Instructor Name: Clayton Lantz

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Demonstrate knowledge of joints, bones, and control systems in 3D animation.
2. Develop functional rigs using hierarchy, constraints, and driver systems.
3. Implement animator-friendly systems to enhance rig functionality.
4. Create aesthetically pleasing deformations through effective skin weight painting.
5. Apply best practices according in industry standards and workflows.

Course Materials and Texts

Required Tools: Autodesk Maya

Course Requirements

Course Assignments, Assessments, and Grading Policy
Assignments: Weekly iterative exercises related to topic of study. (70% of overall grade)
Participation: Engagement in discussions, presentations, and critiques. (10% of overall grade)
Projects: Midterm and final project demonstrating comprehension and competency. (20% overall grade)
Late Policy: Assignments are subject to a 10% late penalty per day with a cut-off at one week after the due date.

Required or Recommended Reading Assignments
None

General Description of the Subject Matter of Each Lecture or Discussion
Week 1: Rigging Fundamentals
  - Transform and shape nodes, local vs world space, forward kinematics, and hierarchies
Week 2: Joints
  - Joint placement and orientation, orientation tools and techniques.
Week 3: Forward Kinematic Systems and Controls
  - Controls, parent groups, constraints, and asset rigging.
Week 4: Inverse Kinematic Systems and Controls
  - Inverse Kinematics, orientation for IK, Transform/COG/Asset nodes.
Week 5: Receiving Kinematic Systems
  - RK fundamentals and setup, multi-target constraints, connection and node editors.
Week 6: Maya Projects and Referencing
  - Creating and setting Maya project structures, referencing rigs for animation.
Week 7: Mirroring Rigs
  - Mirror joints tool, mirroring controls, lock/hide/limit attributes, FK auto-rotation.
Week 8-9: Biped Rig
  - Incorporate FK, IK, and IK systems into full character rig. Utilize constraints, drivers, and hierarchies to create animator-friendly rigs
Week 10-11: Skinning
  - Creating SkinClusters, the Paint Skin Weights tool, painting pleasing deformations.
Week 12-13: Final Project Development
  - Create full character rig using models developed by students. Test and troubleshoot rig functionality through animation exercises.
Week 14: Final Presentations
  - Present final rigs and animation.
  - Participate in discussion and peer feedback.

Required Course Syllabus Statements

Generative AI
The use of generative AI tools is permitted for reference and inspiration purposes only. All submitted work must be original and created by the student. Plagiarism, including the uncredited use of AI-generated content, is strictly prohibited and will be addressed according to university policies.

Using Remote Testing Software
☒ This course does not use remote testing software.

☐ This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU Accessibility Services at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in UVU Policy 541: *Student Code of Conduct*.

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment,

admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation
UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.
To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a specially dedicated space for meditation, prayer, reflection, or other forms of religious expression.