GAME 150 : Character Animation & Rigging

Room B110, Section 501, CRN 80188
Monday & Wednesday, 12:00 - 1:15 & Asynchronous Online
Fall 2026

Instructor: Ian Burch
E-Mail: ianburch@unm.edu
Office and Hours: Office B105A,
In-person Monday & Wednesday, 10:00 am - 10:30 am and 4:15 pm - 5:00 pm
Online on Zoom Tuesday @ 1:30 - 3:00 pm (link in Canvas)
Division Chair: Melinda Schwartz, mcschwartz@unm.edu

Course Prerequisites:
Recommended: Intro to 3D Modeling (GAME 125) or some experience with 3D modeling software

Course Goals:
This course develops the skills and theory behind 3D animation. Students start by learning basic bone & rigging framework, then expand to more complex rigs with hands and faces using shape keys. The classic 12 principles of animation will be explored and used, with discussions of the exceptions we have to make for 3D animation and game development. At the end of the semester, all of these will be used to animate a full and complex scene.

Materials:

- Internet Access, for Learn, Zoom, and Youtube.
- Blender. Version 4.0 or higher (www.blender.org)
- Notebook or Sketchbook

This course requires a computer. If you do not have one, let me know and we can work with campus IT to let you borrow a laptop with the necessary software.

- Blender is free, and can be gotten from https://www.blender.org/

Recommended Reading:
The Animator's Survival Kit by Richard Williams

Learning Objectives:
By the end of the course, students will:

(1) Use keyframes, IK rigs, and other techniques to animate 3D models
(2) Know and use the 12 principles of animation
(3) Be able to build armatures, shape keys, and other animation rigs

(4) Animate complex and detailed actions and emotions
(5) Use object and physics interactions to model complex actions

Course Content
The course is broken up into five units and the final project. The units start with basic techniques and practices and then exploring sequentially more complex animation principles. Generally, we'll introduce a new concept in the first week of each unit and then spend the next week or two putting this animation or technical principle into action. We'll wrap up the semester by using the principles learned to make a portfolio-worthy animation.

Grade Breakdown:
Each of the six units are worth 15% of the final grade, adding up to 90%
The other 10% will come from attendance, participation, and discussion

Each unit's grade will be evenly between the smaller weekly assignments and the unit's final submission.

Letter grades will be given as follows, with + or - given for the highest and lowest 3% in each range, respectively. Incomplete (I) grades will not be assigned without documented, extenuating, circumstances.

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
0% - 59%	F

Tentative Schedule:
This schedule is subject to change, but all key topics and SLOs will be covered.

	Week	**Unit**	**Topic**	**SLOs**
8/17	**1**	**1**	Intro to Blender & Animating	1
8/24	**2**	**1**	Keyframes & The 12 Principles	1,2
8/31	**3**	**1**	Expressive Box	1,2,4
9/7*	**4**	**2**	Labor Day 9/1 Skeletal Rigging	1 3
9/14	**5**	**2**	Forward Animation	3,4

9/21	**6**	**2**	Walk Cycle	2,3,4
9/28	**7**	**3**	Inverse Kinematics, Constraints	1,3,5
10/5	**8**	**3**	Walk Cycles 2	1,3,5
10/12	**9**	**3**	Expressive Action	All
10/19	**10**	**4**	Object Interactions	1,4,5
10/26	**11**	**4**	Physics Interactions	4,5
11/2	**12**	**5**	Eye Tracking	1,3,5
11/9	**13**	**5**	Shape Keys & Face Rig	3,4,5
11/16	**14**	**5**	Speech	2,3,4,5
11/23	**15**	**6**	Final Project	All
11/30	**16**	**6**	Final Project	All
12/7	**Finals**	**6**	Final Project	All

Assignments:
Assignments will be both given in person and posted on UNM Canvas (https://canvas.unm.edu/) Homework assignments will typically be due a week after being assigned, or occasionally the next class session. Larger assignments and projects will be broken up into smaller pieces (such as drafts or rough versions) each with their own due dates, with large projects given at least two weeks in advance.

Late Work / Absences:
Please email me at ianburch@unm.edu if you're going to be late on an assignment and I'll often provide an extension for you to be able to finish the assignment. Unexcused late work may be docked points at my discretion, up to 10% per day, or up to 20% in the case of collaborative work that unduly burdens other students. **Any assignments not submitted by the end of the semester *(December 12th)* will be automatically graded 0%**

Attendance is important to this class for me to give quick feedback, as well as for peer review and discussion. If you let me know in advance or inform me of a reason within 1 week, absences will be excused. Illness, transportation issues, or mental health concerns are all valid excuses. Four or more unexcused absences may result in being dropped from the course. If you will be absent for an extended duration, please let me know ASAP.

Expectations:
Students are expected to conduct themselves in a professional and collegial manner. This course will feature discussions, feedback, and group work. Be respectful and polite of others ideas, work, and contributions. During Zoom meetings, be professional, appropriate, and please mute when not speaking. When posting on discussion boards, be polite, concise, and avoid using internet slang. If you need an extension on an assignment, please contact me at ianburch@unm.edu before it is due.

I am committed to building with you a positive classroom environment in which everyone can learn. I reserve the right to intervene and enforce standards of respectful behavior when classroom conduct is inconsistent with University expectations. Interventions and enforcement may include, but are not limited to, required meetings to discuss classroom expectations, written notification of expectations, and/or removal from a class meeting. Removal from a class meeting will result in an unexcused absence. The University of New Mexico ensures freedom of academic inquiry, free expression and open debate, and a respectful campus through adherence to the following policies: D75: Classroom Conduct, Student Code of Conduct, University Policy 2240 – Respectful Campus, University Policy 2210 – Campus Violence.

Wellness
If you do need to stay home due to illness or are experiencing a wellness challenge, please inform me. You can communicate with me at ianburch@unm.edu; I can work with you to provide alternatives for course participation and completion. Let me, an advisor, or another UNM staff member know that you need support so that we can connect you to the right resources. UNM is a mask friendly, but not a mask required, community. If you are experiencing COVID-19 symptoms, please do not come to class.

Accommodations:
UNM is committed to providing equitable access to learning opportunities for students with documented disabilities. As your instructor, it is my objective to facilitate an inclusive classroom setting, in which students have full access and opportunity to participate. To engage in a confidential conversation about the process for requesting reasonable accommodations for this class and/or program, please contact Accessibility Resource Center at arcsrvs@unm.edu or 505-277-3506. The UNM-Valencia Equal Access Services (Sarah Clawson, Coordinator), at (505) 925-8840 or by email at sjclawson@unm.edu.

UAP 2720 and 2740:
Our classroom and university should foster mutual respect, kindness, and support. If you have concerns about discrimination, harassment, or violence, please seek support and report

incidents. Find confidential services at LoboRESPECT Advocacy Center, the Women's Resource Center, and the Arcoiris Center. UNM prohibits discrimination on the basis of sex (including gender, sex stereotyping, gender expression, and gender identity). All instructors are "responsible employees" who must communicate reports of sexual harassment, sexual misconduct and sexual violence to Compliance, Ethics and Equal Opportunity. For more information, please see UAP 2720 and UAP 2740.

Connecting to Campus and Finding Support:
UNM has many resources and centers to help you thrive, including opportunities to get involved, mental health resources, academic support including tutoring, resource centers for people like you, free food at Valencia Campus Food Pantry, and jobs on campus. Your advisor, staff at the resource centers and Academic Affairs Office, and I can help you find the right opportunities for you.

Academic Integrity:
Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in coursework may receive a reduced or failing grade for the work in question and/or for the course.

Academic Dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others, including AI generators; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Credit-hour Statement:
This is a three credit-hour course. Class meets for two 75-minute sessions of direct instruction for fifteen weeks during the Fall 2026 semester. Please plan for a minimum of four hours of out-of-class work (or homework, study, assignment completion, and class preparation) each week.

Generative AI Policy:
This course is meant to help you develop and demonstrate key knowledge and skills without the support of generative artificial intelligence (AI) tools for submitted work. Using generative AI to

complete submitted coursework in this course will interfere with the advantages in learning and understanding that this course offers you. You are expected to complete submitted work without any generative AI assistance. Prohibited generative AI use includes tools such as ChatGPT, Claude, Gemini, Copilot, Grammarly's generative AI features, AI image generators, AI video or audio generators, AI code generators, AI paraphrasing tools, AI presentation generators, AI design tools, and similar technologies. The purpose of this course policy is educational, not punitive. The assignments in this course are aligned with specific learning processes and outcomes that support your future learning and expertise. Submitting AI-generated or AI-assisted in this course is inconsistent with course expectations and may violate UNM's academic integrity standards and Student Code of Conduct. If AI use is suspected, I will use submitted coursework, assignment directions, conversations with you about your work and process, and this syllabus to determine whether academic misconduct occurred. If you are unsure if a tool or use is allowed, please ask before submitting the assignment.

Citizenship and/or Immigration Status :
All students are welcome in this class regardless of citizenship, residency, or immigration status. Your professor will respect your privacy if you choose to disclose your status. As for all students in the class, family emergency-related absences are normally excused with reasonable notice to the professor, as noted in the attendance guidelines above. UNM as an institution has made a core commitment to the success of all our students, including members of our undocumented community. You may read more at: https://campusclimate.unm.edu/undocumented/index.html

Respectful and Responsible Learning:
We all have shared responsibility for ensuring that learning occurs safely, honestly, and equitably. Submitting material as your own work that has been generated on a website, in a publication, by an artificial intelligence algorithm, by another person, or by breaking the rules of an assignment constitutes academic dishonesty. It is a student code of conduct violation that can lead to a disciplinary procedure. *Please ask me for help in finding the resources you need to be successful in this course*. I can help you use study resources responsibly and effectively.

Off-campus paper writing services, problem-checkers and services, websites, and AIs can be incorrect or misleading. Learning the course material depends on completing and submitting your own work. UNM preserves and protects the integrity of the academic community through multiple policies including policies on student grievances (Faculty Handbook D175 and D176), academic dishonesty (FH D100), and respectful campus (FH CO9). These are in the Student Pathfinder (https://pathfinder.unm.edu) and the Faculty Handbook (https://handbook.unm.edu)