

3D MODELING TEXTURING LIGHTING AND RENDERING | ART 311

SPRING 2026

Instructor Name: Huali Fu

Course Information:

Meeting Time:	Room:
Section 1 MWF 10:00am - 11:50am	Section 1 AJ 254
Section 2 MWF 2:00pm – 3:50pm	Section 2 AJ 254
Canvas Address:	Email: hfu@bsu.edu
Section 1 – CRN 44981	
Section 2 - CRN 44982	
Office Hours: Thursday 10am-12pm	

COURSE INFORMATION

Course Description: This course introduces techniques of three-dimensional computer graphics, as well as the fundamental concepts and philosophy of animation. The techniques include 3d modeling, digital lighting and shading, and basic animation. While Autodesk Maya and Maxon zBrush are the primary software packages used to complete the course assignments, this class features a combination of studio activities, critiques, readings, writings and discussions related to animation and digital media.

Course Overview: This course builds upon skills learned in ART 210 to further their knowledge and expertise in 3D modeling, texturing, lighting, rendering, and animation using Autodesk's Maya software. We will also be learning digital sculpting using Maxon's zBrush and use it in conjunction with Autodesk's Maya. This course is meant to help build the competency needed to make high quality 3D organic and hard surface assets used in games and movies. A broad approach is used in the course to familiarize the student to the many aspects of 3D art.

Course Objectives: Upon successful completion of this course, the student should be able to:

- Model hard surface and organic objects
- 3D Sculpting
- 3D retopology
- Understand UV space and mapping for characters
- Understand texture creation for characters
- Understand and apply lighting principles to 3D scenes
- Understand and apply shader networking

- Understand and apply rendering principles
- Understand basic rigging principles

Student Learning & Course Outcomes:

Upon completion of this course, students should demonstrate understanding and application of skills and knowledge in the following categories:

Modeling: Develop the basic understanding of topology and how that relates creating production ready 3d character models.

Texturing: The ability to understand and create UVs for characters and environment models. The ability to effectively apply textures to models through efficient use of UVs.

Lighting: The ability to understand and apply basic principles of lighting for characters and environments for commercial production.

Rendering: The ability to understand and apply basic principles of Physically Based Rendering used in computer generated imagery, in this case, Arnold renderer as a part of Autodesk's Maya software package.

Context: Awareness of historic contexts, contemporary issues, and technical advancements in the field of computer generated imagery used in games and movies.

Critique: Employ varied critique strategies to develop responses to, analyze, and interpret assignment and projects.

Creativity and Decision Making: Choose/find work/inspiration that are challenging insightful and are related to course content

Course Modality / Structure: The format for this class will combine video, demonstration, studio work time, individual feedback, group discussion, and critique. There will be a Course Calendar located on the Canvas course site, which includes all weekly tasks, assignments, and due dates. This calendar will be updated as the semester progresses.

Course Time Commitment: It is expected that students will spend approximately 2 hours of study time outside of class for every one hour in class. Since this is a 3 credit studio, you should expect to study an average of 6 hours outside of class each week.

COURSE MATERIALS AND FEES

You will find a basic materials list in our Canvas course. As we progress through the semester, we will discuss other potential materials that you may choose to experiment with.

COURSE FEES: TBD

COURSE ASSIGNMENTS AND ASSESSMENTS

The Value of Your Work: As an artist/designer/creative, you help to determine the worth of your work and to cultivate respect for the work that you create. You should take care of your work, the execution, craftsmanship and maintenance of your work reflects on you. Maintaining a portfolio (physical/digital) is an important aspect of your development and education.

Guidelines for Grading: Grades are determined by quality of work, progress, effort, participation, and attendance. Specific criteria will be handed out with individual assignments. Homework that is presented and is unfinished will result in half credit. Late work will also result in half credit. Incomplete and late work will receive no credit.

Students are responsible for the following areas:

Homework & In-Class Exercise	70%
Final Project	30%

Assigned work will be evaluated based on the following criteria: technical execution, effort, creativity, and thoughtfulness. Each homework assignment is worth 10 points, and the final project is worth 50 points. Homework that is submitted but incomplete will receive half credit. Late work will also receive half credit and will be accepted up to one week after the original deadline. All assignments must be submitted in digital format through the ASTAR Dropbox folder and Canvas.

Homework Assignments are extensions of in-class work. There will be **9** homework assignments. These are equivalent to quizzes, in that you will be asked to implement ideas/techniques introduced in the class, and you will be graded on your understanding and application of the course material. You can expect to receive a project assignment about every **2 weeks**.

Final Project will be evaluated at **the end** of the semester. It should encompass all the techniques you have learned in the course so far with regards to modeling, UV-ing, texturing, lighting, animating, and rendering.

Participation: Includes thoughtful, consistent contribution in discussions and critiques, both in the classroom as well as through online discussion boards. You must consistently demonstrate physical and mental effort towards work, research, and intellectual growth. Areas considered are overall effort toward your work, observance of classroom studio etiquette, class preparation, and oral/written participation. Participation in all aspects of the course is mandatory and weighs heavily in the final average. It is vitally important that our classroom environment promotes a respectful exchange of ideas, where everyone is sensitive to the views and beliefs of others.

COURSE STATEMENTS AND POLICIES

Attendance Policy

This course is based upon a series of meetings involving videos, discussions, homework assignments and projects. Attendance at all classes is mandatory. All absences are considered unexcused. Extraordinary circumstances should be discussed as soon as possible to help you stay on track. All accommodations will require official documentation and are subject to the instructor's discretion. For 16-week course, meeting three times a week, four unexcused absences are permitted. **Upon fifth absence, it results in automatic failure of the course.**

Participation Policy:

- This course is designed with critiques, discussion, and other forms of regular collaboration and communication.
- It is recommended that you log into your course 3 to 4 times a week and check your official Ball State email account daily to view announcements and prepare for class.
- Complete all assignments and other activities by the stated due dates.

Feedback Policy:

- I will respond to email from your official Ball State email address within 24 hours during weekdays (Monday-Friday) and within 48 hours on the weekend.
- I will read every discussion post, but I will not always personally comment on posts.
- I will grade your quizzes, assignments, and discussions no later than within 5 business days of submission.
- Contact me directly if you have questions or concerns about your performance in class.

Late Assignment Policy:

- All assignments are due by the dates and times indicated on Canvas. Note, they tend to be at 11:59pm on the day of the critique. This is allowing time for adjustments to the assignment after critique.
- Late work will receive half credit and will be accepted up to one week after the original deadline
- Internet connectivity and technical issues may occur and impede you from turning in work on time. Turn in work early and often, and set up a back-up plan, such as visiting the computer labs or having a personal hard drive for backup.
- Inform your instructor via email if you have difficulty submitting homework and it will be handled on a per case basis.
- Canvas will not accept assignments for grading after 11:59 pm on the final day of class.

Assignment Submission Policy:

- All assignments should be submitted digitally in the format requested in the assignment description. These may include .mb, png or .pdf.
- **Naming in Maya scenes** – All objects, groups, objects within groups, textures or shaders are to be named, or there will be a **2.5-point deduction** on homework assignments.

- Examples:
 - Beane_Andy_FinalRig.mb
 - Ludwick_Brian_FinalStoryboard.pdf
 - Condie_Brad_FirstDraftAnimation.mp4
- Assignments, unless otherwise indicated, should be submitted using the dropbox on the astar server

RUBRICS

Homework & Research Rubric

Process	Followed the parameters of the assignment	1 Points
Process	Ambition and Creativity	2.5 Points
Process	Effort and Dedication	2 Points
Outcome	Technical Competency	2.5 Points
Outcome	Formal Qualities: Craftsmanship, Attention to Detail	2 Points

Final Project Rubric

Process	Followed the parameters of the assignment	5 Points
Process	Ambition and Creativity	12.5 Points
Process	Effort and Dedication	10 Points
Outcome	Technical Competency	12.5 Points
Outcome	Formal Qualities: Craftsmanship, Attention to Detail	10 Points

A = Excellent / Consistently superior effort, completion of all work, strong attendance, evidence of significant growth and commitment. Consistently exceptional work that raises the standards for one's entire peer group.

B = Above Average / Strong effort, high quality of work and above-average growth; good participation and understanding of concepts; Exceeding the expectations of the class

C = Average / Average performance, work, and attitude that meet bare minimum expectations; work shows promise but has not been developed to full potential.

D = Below Average / Inconsistent effort, poor attendance/participation, below-average quality of work. Completion of most, but not all course requirements.

F = Failing Grade / Failure to meet the requirements of the course.

Final grade is determined according to the following point scale:

A = 100-94	B = 86-84	C = 76-74	D = 66-64
A- = 93-90	B- = 83-80	C- = 73-70	D- = 63-60
B+ = 89-87	C+ = 79-77	D+ = 69-67	F = 59 or lower

Ball State University Grading Scale:

A = 4.000	B = 3.000	D+ = 1.333	F = 0.000
A- = 3.667	B- = 2.667	D = 1.000	
B+ = 3.333	C+ = 2.333	D- = .667	

Eating and Drinking in Classrooms

There will be no eating or drinking in the classroom or studio spaces

Grading Policy

It is my policy that appropriate evaluation of your academic performance is an integral part of your learning experience. In the absence of mistake, fraud, bad faith or incompetence, I will be the key decision-maker on the assignment of grades. For information concerning grade appeals, [consult the Ball State website.](#)

A Note on Pronouns

We all have pronouns that we expect people to use when they refer to us. These may be

he/him, she/her, they/them, or something else. Many people never have to think about their pronouns, but most of us would still be uncomfortable if someone referred to us using pronouns that feel wrong to us. For that reason, it is important to use the correct pronouns when referring to others, including your classmates, professor, and the artists and designers we will be discussing throughout the semester.

UNIVERSITY POLICIES

Syllabus Statement

We are committed to ensuring that all members of the community are welcome, through valuing the various experiences and worldviews represented at Ball State and among those we serve. We promote a culture of respect and civil discourse. If you need course adaptations or accommodations because of a disability, please contact the instructor of record as soon as possible. Ball State's Disability Services office coordinates services for students with disabilities; documentation of a disability needs to be on file in that office before any accommodations can be provided. Disability Services can be contacted at 765- 285-5293 or dsd@bsu.edu.

Disability Services Statement

If you need course adaptations or accommodations because of a disability, please contact me as soon as possible. Ball State's Disability Services office coordinates services for students with disabilities; documentation of a disability needs to be on file in that office before any accommodations can be provided. Disability Services can be contacted at 765-285-5293 or dsd@bsu.edu.

Ball State Academic Ethics Policy

Honesty, trust, and personal responsibility are fundamental attributes of the university community. Academic dishonesty and other forms of academic misconduct threaten the foundation of an institution dedicated to the pursuit of knowledge and will not be tolerated. To maintain its credibility and reputation, and to equitably assign evaluations of scholastic and creative performance, Ball State University is committed to maintaining a climate that upholds and values the highest standards of academic integrity. Visit the complete [Student Academic Ethics Policy](#).

Plagiarism Policy: Plagiarism is not acceptable, unless otherwise indicated for all assignments, you must work independently by yourself. Sharing of files is not permitted for any reason.

Potential Violations

Examples of academic integrity violations include but are not limited to:

- Working with another person on any assignment other than authorized group projects.
- Sharing or allowing others to access your files, whether done with permission or not.
- Use or possession of a file created by someone else.
- Reusing work from another semester, course, or section.

- Fraudulent submission of work.
- Using unauthorized materials during Exams.
- Impersonating someone else or having them impersonate you.
- Making fraudulent or dishonest statements regarding your work.
- Soliciting others to complete work for you.
- Posting course files and resources on study or content sharing websites.

[The Plagiarism Tutorial from UNC Libraries](#) provides you with a great foundation in Academic Integrity.

Plagiarism Detection

The campus subscribes to SimCheck, a plagiarism prevention service, through Canvas. You may need to submit written assignments to SimCheck. Student work will be used for plagiarism detection and for no other purpose. The student may indicate in writing to the instructor that he/she refuses to participate in the plagiarism detection process, in which case the instructor can use other electronic means to verify the originality of their work.

CANVAS AND STUDENT PRIVACY

Canvas Accessibility: Canvas provides a user experience that is easy, simple, and intuitive. Special attention has been paid to making Canvas screen-readable. The Rich Content Editor encourages users to create accessible content pages (i.e. text formatting is accomplished using styles). Canvas is designed to allow limited customization of colors and schemes to be accessible for all users. The National Federation of the Blind granted Canvas the Gold Level Web Certification in 2010. Find more information by visiting the [Canvas Voluntary Product Accessibility Template \(VPAT\)](#).

FERPA and Privacy: As a student, your educational records are considered confidential. Under FERPA (Family Educational Rights and Privacy Act), your records are confidential and protected. Under most circumstances, your records will not be released without your written and signed consent. However, some directory information may be released to third parties without your prior consent unless a written request to restrict this is on file. You can learn more about student rights to privacy by reading [Ball State's FERPA and Privacy and Protection](#).

Video Conferencing Recording: In this class, software may be used to record live class discussions. As a student in this class, your participation in live class discussions may be recorded. These recordings typically will be made available only to students enrolled in the class, to assist those who cannot attend the live session or to serve as a resource for those who would like to review content that was presented. Students who prefer to participate via audio only will be allowed to disable their video camera so only audio will be captured. Students who prefer to listen only must disable their audio capability and visual camera. If you have concerns, please discuss these options with me.

SUPPORT SERVICES

The Writing Center: All writers improve with practice and feedback, so as a student in this course, you are encouraged to use the Writing Center (in Robert Bell 295, Bracken Library, or online) to get additional feedback on your writing. To schedule a free appointment to discuss your writing, go to www.bsu.edu/writingcenter. Online and in-person appointments are available seven days a week; however, plan ahead because appointments book quickly!

The Learning Center: The Learning Center offers free Tutoring and Academic Coaching for many courses at Ball State. Students can make appointments for online (Zoom) or in-person (NQ 350) appointments. All students are required to wear masks in the Learning Center. To make an appointment, visit my.bsu.edu and click on “TutorTrac” in the Additional Tools section, or just go directly to <https://ballstate.go-redrock.com>.

Testing accommodations for students with disabilities are available for students who have received the appropriate documentation from Disability Services. Tests may be administered in the Learning Center.

Supplemental Instruction is available in select courses. If you have an SI leader for your course, that person will provide students with information the first week of school regarding weekly study sessions. For more information about all of our programming, visit bsu.edu/learningcenter or call 765-285-1006. Follow us on Instagram: BallStateLC.

The Counseling Center offers free confidential telehealth counseling services for BSU students. Students can call the Counseling Center at (765) 285-1736 to make an appointment. Many of their outreach services can be accessed from anywhere and they have online **resources** available 24 hours a day. They also have a free, self-help, on-line tool -- Welltrack to help cope with stress, anxiety and depression and this can be found at: <https://www.bsu.edu/campuslife/counselingcenter>. Click here to **find more information (PDF)** about services for Spring 2022.

Cardinal Kitchen: Cardinal Kitchen is Ball State’s campus food pantry. The pantry is open to all Ball State students Tuesday nights from 5:00 to 8:00 p.m. throughout the year. It is located in Room L26 of the Student Center and you can contact them by phone: (765) 285-2621 or email: cardkitch@bsu.edu

AI POLICY

As part of this course, students are permitted to use text-based AI tools, including ChatGPT, to support their creative and technical work. However, the responsible and ethical use of AI is essential and should align with the principles of academic integrity, originality, and respect for the creative process.

Guidelines for AI Use:

1. Purposeful Assistance: AI tools may be used for brainstorming, generating ideas, refining written content, or solving technical challenges. AI should serve as a supplement to your own critical thinking and creativity, not a replacement.
2. Transparency: Clearly document when and how AI tools were used in your project.
3. Originality and Ownership: Ensure that the final work reflects your personal vision and effort. AI-generated content must be reviewed and integrated thoughtfully, not submitted as-is, to maintain the integrity of your artistic voice.
4. Critical Evaluation: Verify the accuracy, relevance, and originality of AI-generated content. Be cautious of relying on AI-generated outputs that may perpetuate biases,

inaccuracies, or unoriginal ideas.

5. **Respect for Collaboration:** If collaborating with peers, discuss and agree upon the role AI will play in your shared work to maintain fairness and equitable contribution.

Ethical Considerations:

1. **Moral Responsibility:** Recognize the broader ethical implications of using AI tools, including potential issues of copyright infringement, plagiarism, and over-reliance on automated processes.
2. **Cultural Sensitivity:** Be mindful of biases or culturally insensitive outputs generated by AI tools. It is your responsibility to evaluate and adjust content to reflect ethical and inclusive values.
3. **Creative Integrity:** Understand that your capstone project is a demonstration of your skills and creativity as an artist and professional. Misuse of AI tools to shortcut the creative process can undermine the purpose of the course and your learning experience.

Consequences for Misuse:

Failure to comply with these guidelines may result in academic penalties, including loss of credit for assignments or projects where misuse is identified. Additionally, such behavior may be reported in accordance with the university's academic integrity policies.

By adhering to this policy, you will demonstrate professionalism and ethical decision-making while leveraging AI as a valuable tool in your creative journey. (I did use AI to help create this AI policy.)

SUBJECT TO CHANGE STATEMENT

This syllabus and schedule are subject to change in the event of extenuating circumstances.

WEEKLY OUTLINE SPRING 2026

Note for Homework Submission

All homework must be submitted before the start of class in order to be included in in-class critique. Work that is not submitted by that time may not be reviewed during class. The formal deadline for all homework is 11:59 p.m. on the day it is due.

Week	Activities
Week 1	<p>Jan 5-9 Intro to Class</p> <p>Mon - Intro to Class Wed - Intro to zBrush Fri - Intro to zBrush</p>
Week 2	<p>Jan 12-16 Introduction to digital sculpting with zBrush</p> <p>Mon - Critique HW 01 - Lamp Render Due Wed - Simple Creature Fri - Simple Creature</p> <p>Homework 01 Lamp Render Model, UV, texture, texture, light and render the lamp based on the reference given, The rendered image must be 1920x1080 in .png format</p>
Week 3	<p>Jan 19-23 Working with zBrush & Introduction to Character Modeling</p> <p>Mon - MLK Day No Class Wed – Simple Creature Fri - Critique HW 02 - Simple Creature Due</p> <p>Homework 02 Simple Creature Find a simple stylized creature design that appeal to you, (e.g. Pikachu) and sculpt and polypaint the model. Alternatively, you may follow my example. For critique submit an image (1920x1080 .png format) and the .ztl file.</p>

<p>Week 4</p>	<p>Jan 26-30 Character Modeling</p> <p>Mon – Simple Chibi Character Wed - In-Class Speed Sculpt Exercise 01 Fri - Simple Chibi Character</p> <p>In-Class Speed Sculpt Exercise 01 Sculpt a stylized mug that would be used in a fantasy tavern. Use the zBrush to Photoshop plugin to create a .psd file and submit high-resolution image of (1920px x 1080px, .png format)</p>
<p>Week 5</p>	<p>Feb 2-6 Character Modeling</p> <p>Mon - Simple Chibi Character Wed - Simple Chibi Character Fri - Simple Chibi Character</p>
<p>Week 6</p>	<p>Feb 9-13 Character Modeling</p> <p>Mon - Simple Chibi Character Wed - Simple Chibi Character Fri – Critique HW03 - Simple Chibi Character Due</p> <p>Homework 03 Simple Chibi Character Submit a Maya project folder containing:</p> <ul style="list-style-type: none"> • retopologized mesh in a scene file (Don't forget to name objects in outliner!) • base color map • roughness map • metal map • normal map • An Arnold render of Simple Chibi Character (1920px x 1080px and in .png format)
<p>Week 7</p>	<p>Feb 16-20 Complex Character</p> <p>Mon – Complex Character Wed - In-Class Speed Sculpt Exercise 02 Fri – Complex Character</p> <p>In-Class Speed Sculpt Exercise 02 Sculpt a stylized weapon for a D&D character. Use the zBrush to Photoshop plugin to create a .psd file and submit high-resolution image of (1920px x 1080px, .png format)</p>

Week 8	Feb 23-27 Complex Character Mon - Complex Character Wed - Complex Character Fri - Complex Character
Week 9	Mar 2-6 Spring Break - No Class
Week 10	Mar 9-13 Complex Character Mon - Complex character Wed - Complex Character Fri - Complex Character
Week 11	Mar 16-20 Complex Character Mon - Complex Character Wed - In-Class Speed Sculpt Exercise 03 Fri - Complex Characters In-Class Speed Sculpt Exercise 03 Sculpt a Derpy alien/monster for a whimsical children TV show. Use the zBrush to Photoshop plugin to create a .psd file and submit high-resolution image of (1920px x 1080px, .png format)
Week 12	Mar 23-27 Complex Character Mon - Critique HW 04 - Retopo-ed & UVed Complex Character Wed - Complex Character Fri - Complex Character Homework 04 Retopo-ed & UVed Complex Character Submit retopo-ed complex character model (.mb file) with UVs
Week 13	Mar 30 - Apr 3 Complex Character Mon - Complex character Wed - Complex Character Fri - Complex Character

Week 14	Apr 6-10 Complex Character Mon - Complex character Wed - Complex Character Fri - Critique HW 05 - Complex Character, textured with pose Render Homework 05 Texture, Pose & Render Complex Character Submit 2 rendered images of textured Complex Character models with pose on diorama. (1920px x 1080px in .png format)
Week 15	Apr 13-17 Complex Character Mon - Complex character Wed - Complex Character Fri - Complex Character
Week 16	Apr 20-24 Complex Character Mon - Complex character Wed - In-Class Speed Sculpt Exercise 04 Fri - Complex Character In-Class Speed Sculpt Exercise 04 Sculpt a creature combining a food and an animal, e.g. a tacocat. Use the zBrush to Photoshop plugin to create a .psd file and submit high-resolution image of (1920px x 1080px, .png format)
Finals Week	Apr 27 - May 1 Mon - Last Day of Class Final Project Complex Character on the Diorama 1. 2 rendered images of character on the lit diorama (resolution 1920x1080, .png format) 2. 8 second (loopable) character turn around movie, using camera rotation, of character in the lit diorama (resolution 1920x1080, .mp4, 24fps) Final Project due in Exam Cell Section 1 Exam Cell B2 (Wednesday 12:00pm – 2:00pm) Section 2 Exam Cell C4 (Thursday 2:15pm – 4:15pm) NO LATE WORK WILL BE ACCEPTED FOR THE FINAL PROJECT. Have a great summer!