

CSAT 3330/ARTC 3334: INTRODUCTION TO MAYA

CSAT - 9.30am–10.45pm. ARTC - 9.30am–12.15pm

Tuesday and Thursday, January–May, 2020 | Room BAB 303, Sul Ross State University

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Office Hours: **MW: 10-10.50am** **TR: 9-9.25am**, and by appointment

Course Introduction

In this class you will learn how to use Autodesk's Maya 2019 software to build, rig, texture, light, animate, and render 3D objects. The skills you learn and develop in this class will allow you to create 3D graphics for games, animation, sculpture, etc.

Learning Objectives

In this course, you will:

- Learn how to build a 3D model in 3-dimensions using polygons and NURBS.
- Build skeletons (rigs) for various models so that you can animate them.
- Add simple colors to your models using shaders and detailed texturing with UV Mmapping.
- Place lights around your models to create a particular mood or draw attention to certain aspects of your creation.

Grading and Evaluation

You will be graded on attendance and participation in discussions and critiques, projects and assignments, and a final examination. All assignments will be evaluated for effort, technical ability, concept, execution, and presentation.

Please note that work submitted **no later** than the beginning of class, the day of the deadline, will be graded. **Any work submitted *one minute* past the beginning of class will be awarded a zero. There are no exceptions to this rule.**

Your final class grade will consist of:

- Projects : 70%
- Final Project : 15%
- Attendance and participation: 15%

Final Examinations

You must turn up to the final examination. If you do not, your overall class grade will drop an entire letter.

Materials and Text

- 4GB (minimum) jump/flash drive
- A copy of Autodesk's Maya 2018, student edition, installed on a personal computer

There is no required textbook for this course.

A jump-drive is essential for saving your work. You are expected to back up your projects to another location, such as at a free service like www.dropbox.com or www.google.com/drive. Not submitting a project because you lost your jump-drive or some other technical difficulty **will not be accepted as an excuse** and will earn you a zero for that project.

Availability of Autodesk Products

Autodesk's Maya 2018 can be found in BAB 302-303 and in FAB 207. You can also download a student version with your SRSU email address onto a personal computer with a license that lasts three years. You will also need access to Photoshop, which you can find on the second floor of the library, FAB 207, and in the BAB labs. Adobe also offers a fully functional 7-day trial of the software.

Tobacco Products

Any tobacco products and e-cigarettes are not permitted in the classroom.

Rules and expectations

Attendance is **compulsory**. If you must miss a class for a school-related activity, the absence must be discussed (and arrangements made regarding coursework) **prior to the absence**. If you must miss a class for an emergency or illness, please contact me **by email or phone as soon as possible**. Six (6) absences result in you being dropped from the course with a grade of "F" as per Sul Ross State University policy. Five (5) unexcused absences will result in a zero for your attendance and participation grade. Arriving to class **on time** is also essential – **arriving late more than two times will be counted as one absence**. **Lateness is defined as 15-minutes after the start of class**. **Leaving before class ends will result in you being marked absent**.

Below is a guide to how much each absence impacts your attendance and participation grade.

- | | | | |
|---------------------------------|------|--------------------------------|-------|
| • One (1) unexcused absence: | -20% | • Four (4) unexcused absences: | -80% |
| • Two (2) unexcused absences: | -40% | • Five (5) unexcused absences: | -100% |
| • Three (3) unexcused absences: | -60% | • Six (6) unexcused absences: | FAIL |

No cell phone usage. No social-networking websites. No instant-messaging. No checking personal emails. Headphones and earbuds are allowable **ONLY** when you are working, but not when the professor or a fellow student is speaking. **Doing any of these, or anything I consider disruptive to the class, will drastically drop your attendance and participation grade. You may be also asked to leave the class and will be marked absent for that day.**

Late work will not be accepted.

Plagiarizing, cheating, or any other dishonest behavior in the classroom will not be tolerated. Rules and regulations regarding plagiarism, dishonesty, and other issues concerning classroom participation can be found in University Rules and Regulations and Student Handbook. This course will abide by these established policies. A student found to be engaging in these activities will be penalized to the full extent of Sul Ross State University policy.

ADA Needs

It is Sul Ross State University policy to provide reasonable accommodations to students with disabilities. If a student would like to request such accommodations because of a physical, mental, or learning disability, please contact the ADA Coordinator in the Ferguson Hall, room 112 or call (432) 837-8691. Please relate all requests for special accommodations to the instructor by the third class period.

SLOs

1. Students will expressively communicate an original idea or concept visually through an original artwork.
- 3d. Students with a concentration in Digital Art will be able to demonstrate knowledge and familiarity of digital image creation and knowledge of professional practices in digital art.
 - a. Demonstrate the ability to produce a cohesive professional thematic capstone project which is well crafted and has a defined technique or personal style.
 - b. Demonstrate technical mastery of digital skills as they apply to the selected media.
 - c. Ability to produce a professional portfolio that meet current industry standards.
 - d. Ability to work in a timely manner.

Marketable Skills

1. Solving problems through critical thinking.
2. Creating ideas with independence of thought.
3. Communicating professionally through written and spoken presentation.


Exam

Missing the exam at the end of the semester will result in your final score dropping an entire letter grade for the class.

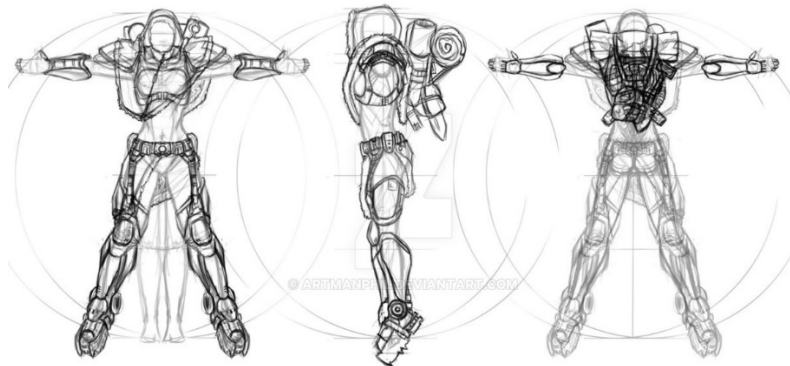
COURSE SCHEDULE

Please note that this syllabus is subject to change

DATE	IN CLASS	FOR NEXT CLASS
Jan 14 (T)	Class introduction and syllabus overview. Download <i>Maya Student Edition</i> to your personal computer from Autodesk.com and be sure to choose the 2019 edition. Download the class files from Blackboard	. Download support files from Blackboard
Jan 16 (R)	Playing around with Maya: 1) setting up a project, 2) creating polygons and the input box, 3) moving around the screen, 4) using the transformation tools, 5) shaded and wireframe views, 6) animation, and 6) grouping. Project #1: Biped drawings (ARTC Students – two bipeds).	
Jan 21 (T)	Exercise: <i>Solar System project. When you're finished the exercise, playblast the animation, upload to Youtube.com, and email me the video link</i>	. Solar system with CUBES . Biped drawings
Jan 23 (R)	DUE TODAY: Biped drawings (ARTC – 2 bipeds) Exercise: <i>Catapult</i>	
Jan 28 (T)	DUE TODAY: Solar system Continue working on Book Exercise: <i>Catapult</i>	
Jan 30 (R)	Continue working on Book Exercise: <i>Catapult</i>	
Feb 4 (T)	Continue working on Book Exercise: <i>Catapult</i>	Catapult exercise
Feb 6 (R)	DUE TODAY: Catapult Project #2: Table and Chairs + Wooden Car (ARTC students – furniture, car, and an object of your choosing)	
Feb 11 (T)	Continue working on your table and chairs + Wooden Car (ARTC plus an object of your choosing)	
Feb 13 (R)	Continue working on your table and chairs + Wooden Car (ARTC plus an object of your choosing)	
Feb 18 (T)	Continue working on your table and chairs + Wooden Car (ARTC plus an object of your choosing)	Table and chairs (and wooden car)
Feb 20 (R)	DUE TODAY: Table and Chairs + Wooden Car (ARTC: furniture, car, and a third object) Exercise: Modeling, shading, and rigging a robot (ARTC – two robots)	
Feb 25 (T)	Continue working on your robot(s)	
Feb 27 (R)	Continue working on your robot(s)	Robot(s)
Mar 3 (T)	DUE TODAY: Robots Project #3: Modelling a biped Next class – bring multiple photos of one (CSAT) or two (ARTC) objects you can model	Modelling freestyle photos
Mar 5 (R)	Show photos of your freestyle object to the professor. Continue modelling your biped	
Mar 10 (T)	Continue modelling your biped.	Biped models
Mar 12 (R)	Project #4: Freestyle modelling one object (ARTC: two objects)	
Mar 9-13	--- SPRING BREAK ---	
Mar 17 (T)	Continue building your freestyle objects.	

Mar 19 (R)	DUE TODAY: Biped(s) Continue building your freestyle objects.	
Mar 24 (T)	DUE TODAY: Modelling Freestyle Project #5: UV and light your robot(s) Rig your robot to spin, move, and move its arms. UV some parts of your robot.	
Mar 26 (R)	Continue working on your UVs and lights.	
Mar 31 (T)	DUE TODAY: Textured and lit robots Work on the two rigging exercises: pp 352-368 and pp 383-386	
Apr 2 (R)	Continue working on the two rigging exercises: pp 352-368 and pp 383-386	
Apr 7 (T)	Begin working on your final project	
Apr 9 (R)	Continue working on your final project.	
Apr 14 (T)	Continue working on your final project.	
Apr 16 (R)	Continue working on your final project.	
Apr 21 (T)	Continue working on your final project.	
Apr 23 (R)	Continue working on your final project.	
Apr 28 (T)	Continue working on your final project.	
8.30-10am, Monday, May 4 	FINAL EXAM – show your final models to the class	

Project #1: Biped



<http://artmanphil.deviantart.com/art/Character-Concept-02-t-pose-142203739>

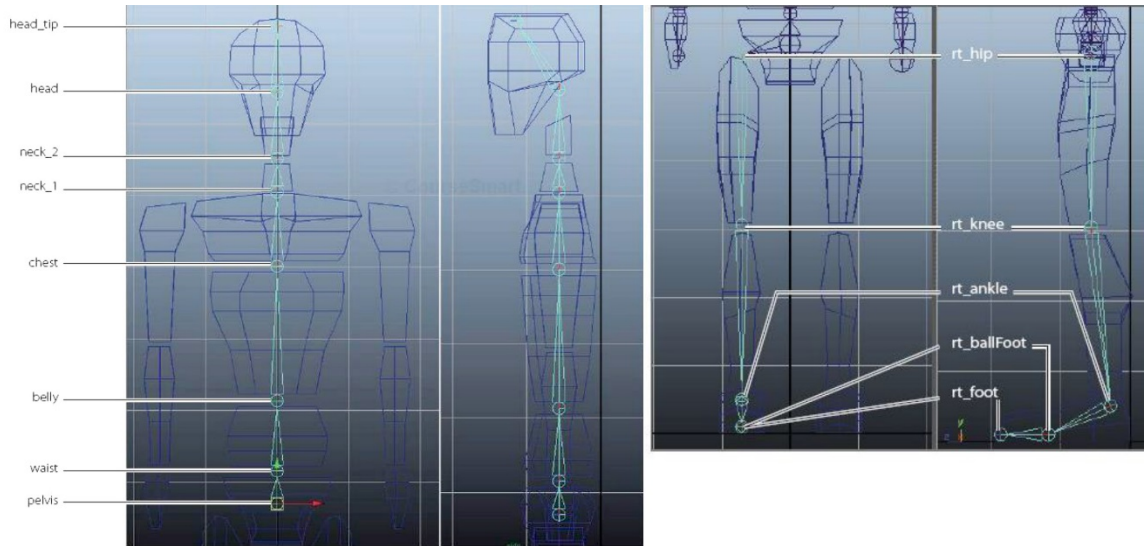
Description

Design a 2-legged creature you want to turn into a 3d figure. Draw as detailed a model as you can of the biped in a T-pose. I cannot stress how important it is to put your character into a t-pose – if you do not, it will be extremely difficult to add a skeleton so that you can animate your creation. DO NOT worry about shading, texture, etc. Instead, make a line drawing similar to the one of the catapult in the student materials PDF.

Your character design must consist of three views - front, back, and side. Use guides to line up the size of the head, placement of the eyes, hands, feet, etc. You are looking to achieve a guide from which you can build a design using a guide. The drawing is a chance for you to work out any problems you might have before assembling the model. I'd suggest making some rough sketches first to get a feel for your character before you commit to detail.

ARTC Students

You are to design TWO characters.



Grading

To do well in this project, do the following:

- Provide a single JPEG or PNG of your drawing with a side, front and back view, three views in total – 60%
- Include all the anatomical parts listed in the images – later you will be adding a skeleton to your creation – 10%
- Make your design sufficiently detailed to work from in Maya – 30%

Project #2: Table and Chairs + Wooden Car(ARTC – plus an object of your choosing)

Description

Model a table and four chairs plus a wooden car in Maya from the photos provided. Use the photos as reference planes to ensure a fairly accurate model. Assign colored shaders to all five objects. The table and each chair should be individual objects. The car body should be its own object, and the four wheels connected by two axels, should both be separate objects.

ARTC Students

Besides modelling the table and chairs, you must also build a relatively complex object. Take photos from all angles and SHOW ME YOUR IMAGES so I can determine if it is too complex or not complex enough.

Grading

You will be graded from 0-100% on this project. To score well, please do the following:

- Email the Maya file of what you create, as well as renders in PNG or JPEG format.
- Add a simple wooden texture and relevant colors for each piece of furniture – 20%
- Model as accurately as you can. Remember to bevel! – 80%
- *(note that the same grading breakdown applies for the wooden car and third object if you're an ARTC student)*

Project #3 – Modelling a Biped

Description

Model your biped using the designs from earlier this semester. Some deviation from your original drawings is fine.

ARTC Students

Build both your bipeds.

Grading

You will be graded from 0-100% on this project. To score well, please do the following:

- Email me a Maya file of completed model.
- Effort – 80%
- Make a complete figure that has all the anatomical parts listed in the photos from Project #A – 20%

Project #4 – Modelling Freestyle

Description

Choose a relatively complex real-world object and model it/them in Maya. You MUST have your object approved by the professor. Remember to photograph the object from all angles.

ARTC Students

You must model TWO objects.

Grading

You will be graded the following way:

- Effort – 70%
- Accuracy – 30%

Project #5 – Texturing and light your robot(s)

Description

Add shaders and textures to your robot, and then add lights. Please also add a background so that the light has something to bounce off, and so that shadows can be seen. Consider the mood of the piece that each kind and color of light can achieve.

Light suggestions

Follow the tutorial at this video - <https://www.youtube.com/watch?v=JMwY3DY0BW4> – and once you understand the concepts, turn your robot into a combination of chrome and glass with 3-point studio lighting. Be sure to add a background for light and shadows

Grading

You will be graded the following way:

- Shading and texturing – 50%
- Lighting – 50%

Final Project

Description

Spend the remainder of the semester building another model from scratch – design, model, rig, texture, and light it. The more you build, the better you will become as a 3D artist.

ARTC Students

Build two models.

Grading

You will be graded from 0-100% on this project. To score well, please do the following:

- Effort – 50%
- Creativity – 50%