

# ARTC 3340/CSAT 3340: ADVANCED ANIMATION

9.30am – 12.15pm (CSAT 9.30-10.45am), Tuesday and Thursday | Aug – Dec, 2021

Room – VIRTUAL MEETING, Sul Ross State University

Avram Dumitrescu [adumitrescu@sulross.edu](mailto:adumitrescu@sulross.edu) 1 (604) 316-8283

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

## Virtual Meeting Location

A Microsoft Teams recurring meeting has been set up and can be found here: <https://tinyurl.com/3mx66tue>

## Course Introduction

This class is a continuation of *ARTC 2331: Introduction to Animation* where you will further develop your animation skills through class projects, animation examples, guidance and instruction. Animations will be drawn using Wacom Intuos tablets and animated in the open-source *Opentoonz* or *Krita*. The skills you develop over the semester will go towards the creation of a 15-second animation of your own choosing.

## Learning Objectives

During this semester you will:

- Continue learning key concepts of animation through many projects and examples
- Understand how to add life and character to your creations
- Further refine and practice your animation skills

## Grading and Evaluation

Grading will be based on class projects, attendance, participation in discussions and critiques, and a final animation. All assignments will be evaluated for effort, execution, and presentation.

Each of the projects will be graded on a scale from 0-100%. No extra credit projects will be offered.

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:

- Animation projects : 60%
- Book Quiz : 5%
- Attendance and participation : 15%
- Final Project : 20%

## 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

- *The Animator's Survival Kit – choose one version below*
  - iPad edition - <https://itunes.apple.com/us/app/the-animators-survival-kit/id627438690?mt=8>
  - Print edition - *The Animator's Survival Kit-Revised Edition* by Richard Williams. ISBN: 086547897X
- 4GB (at least) jump/flash drive
- A working pair of headphones with a standard audio jack

**You must have your textbook in class by the date listed in the syllabus as we will have a book quiz that day.** I highly recommend the iPad edition of *The Animator's Survival Kit—Expanded edition*. While a little more expensive, it includes many animated examples that will allow you to more easily understand the concepts in the book. The physical copy of the book should be available from the Sul Ross bookstore or can be bought from an online store, such as [www.amazon.com](http://www.amazon.com).

A jump-drive is essential for saving your work but you are also expected to back up your projects to another location, such as at a free service like [www.dropbox.com](http://www.dropbox.com) or [www.google.com/drive](http://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.

### Software and hardware availability

*Opentoonz* is the software we will be using for the semester, which is available on the computers in BAB 302-303. It can also be downloaded from here: <https://opentoonz.github.io/e/download/opentoonz.html>. Krita can be downloaded for free from <https://krita.org/en/>. You are welcome to use other software if you prefer.

### Email

You are expected to check your email **daily**. I will occasionally send important messages about the course via Blackboard. Ensure you check the email account that is connected to your Blackboard account.

### 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) unexcused 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 considered 15 minutes after the beginning of class**.

**Please note that an absence is 50-minutes, not one class period.** 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 Grace Petty 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.

*Please note that this syllabus is subject to change.*

### COURSE SCHEDULE

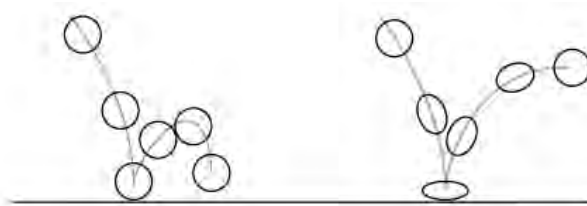
DATE	IN CLASS	FOR NEXT CLASS
Aug 24 (T)	Class introduction and syllabus review Comparison – The Incredibles 2 teaser vs Monster Family	
Aug 26 (R)	Project #1: Two Looping Ball Bounces	Have your textbook or app for next class
Aug 31 (T)	<b>BOOK QUIZ – please have your book or app in class today.</b>  Project #2: <b>S and C Curves</b>  Project #3b: <b>Two Storyboards</b>	Project #3a: <b>Brainstorming</b>
Sept 2 (R)	Continue working on projects #1, #2, and #3a	Projects #1, #2, and #3a are due next class
Sept 7 (T)	<b>Due today: Projects #1 (Ball Bounce), #2 (S and C Curves), and #3a (Brainstorming)</b>  Continue working on Project #3b	
Sept 9 (T)	Continue working on Project #3b	Read <b>pp304-314</b> from textbook, or the following from the app: <i>Chapter 13: Dialogue</i>  Note: You will need headphones for the next class
Sept 14 (T)	Due today: Project #3b (Storyboards)  Project #4: Lip-synching	
Sept 16 (R)	Continue working on Project #4	Read <b>pp327-332</b> and <b>pp352-360</b> from textbook, or the following from the app: <i>Chapter 13: Animal Action</i> and <i>Chapter 17: Expanded Edition (Animal Flexibility, Action on a Running Dog, How does a horse really</i>

		<i>walk – Birds)</i>
Sept 21 (T)	<b>Due today: Project #4 (Lip-synching)</b> Project #5: <b>Animal Walks</b>	
Sept 23 (R)	Continue working on Project #5	Read <b>pp102-175</b> from textbook, or the following from the app ( <b>note that this is a long chapter</b> ): <i>Chapter 6: Walks</i>
Sept 28 (T)	<b>Due today: Project #5 (Animal Walks)</b> Project #6: <b>Walking with an emotion</b>	
Sept 30 (R)	Continue working on Project #6	
Oct 5 (T)	<b>Due today: Project #6 (Walking with an emotion)</b>  Project #8: <b>Character lifting a heavy object</b>	
Oct 7 (R)	Continue working on Project #8	
Oct 12 (T)	Continue working on Project #8	
Oct 14 (R)	<b>Due today: Project #8 (Character lifting a heavy object)</b>  Project #9: <b>Flour Sack</b>	
Oct 19 (T)	Continue working on Project #9	
Oct 21 (R)	Continue working on Project #9	
Oct 26 (T)	<b>Due today: Project #9 (Flour Sack)</b> Final Project – 15-second animation	
Oct 28 (R)	Continue working on your final project	
Nov 2 (T)	Continue working on your final project	
Nov 4 (R)	Continue working on your final project	
Nov 9 (T)	Continue working on your final project  <b>Final project W.I.P. screening</b>  November 12, Friday, is the last day to withdraw from the 16-week course/term with a grade of 'W'. Drops must be processed and in the University Registrar's office by 4 p.m.	
Nov 11 (R)	Continue working on your final project	
Nov 16 (T)	Continue working on your final project	
Nov 18 (R)	Continue working on your final project	
Nov 23 (T)	Continue working on your final project	
Nov 24-26	Thanksgiving Break	

Nov 30 (T)	Continue working on your final project LAST CLASS DAY	
MONDAY Dec 6 9am	For the exam we will screen your final project animations. A YouTube link to your final animation must be emailed to the professor by 9pm, the day before the final exam	

### ---Project #1: Two Looping Ball Bounces ---

Create an animation that shows two balls bouncing. On the left will be a ball bouncing up and down, and on the right will be another ball bouncing up and down that *stretches* and *compresses*.  
CSAT Students – choose ONE to animate.



Source: [jackbush442.tumblr.com](http://jackbush442.tumblr.com)

#### Grading

Grade breakdown:

- Each frame MUST be drawn by hand. Do not use the geometric circle tool in *Opentoonz*. Using geometric tools will automatically earn you a zero for this project.
- Animate both bouncing ball sequences (30%).
- One ball animation must stretch and squash, and the other must retain its shape. Both animations must display a sense of bounciness (50%).
- Animation length is long enough (20%)

#### Due Date

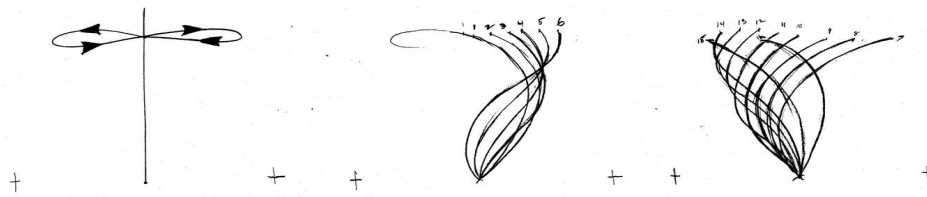
Your animation must be uploaded to a YouTube.com account than the beginning of class, on the date specified in the calendar. Projects received after this time will receive a zero. Be sure to set the video to Public, not Private.

### --- Project #2: S and C Curves---

*Note: This project is similar to one you did in Intro to Animation but is worth revisiting due to the importance of S and C curves.*

Animate a tree being buffeted by strong winds. Implement S and C curves when creating your lines.

Here are some guides (source: <http://gossipisanimationclass.blogspot.com/2012/11/day-11-welcome-back-to-class.html>).



The image on the left gives you an idea of the path of the tip of the tree. Please DO NOT trace these but instead use them as a guide for creating your own.

Once you have the line animating well using S and C curves, return to each frame and add detail to turn it into a tree.

## Grading

Grade breakdown:

- Correctly animate the S and C curves (70%)
- Add the body of the tree once the line is moving realistically (30%)

## Due Date

Your animation must be uploaded to a YouTube.com account than the beginning of class, on the date specified in the calendar. Projects received after this time will receive a zero. Be sure to set the video to Public, not Private.

## --- Project #3(a): Brainstorming ---

Come up with ten story ideas that you can tell in **fifteen** seconds.

One approach to coming up with ideas is this: 1) define a character, 2) explain an objective, 3) create an impediment, and 4) show a resolution (not necessarily positive). You may also create more experimental/abstract stories.

Below are some topics you can use as beginning points. Note that this will be the basis of your final animation so create a strong story to animate.

- |               |                          |          |
|---------------|--------------------------|----------|
| 1) Crunch     | 5) Jealousy              | 9) Spark |
| 2) Friendship | 6) The future / the past | 10) Pain |
| 3) Lost       | 7) Food                  |          |
| 4) Wall       | 8) Greed                 |          |

## Grading

Grading Breakdown:

- Ensure each of your ten stories have enough thought and effort put into them – later this semester you will be storyboarding two of them (100%)
- Type up your ten story ideas in Microsoft Word. You must save it as a .DOC or DOCX file. File format for this is LASTNAME-FIRSTNAME-10ideas.doc

## Due Date

Your ideas must be emailed to [adumitrescu@sulross.edu](mailto:adumitrescu@sulross.edu) as a Word file no later than the beginning of class, on the date specified in the calendar. Projects received after this time will receive a zero.

## ---Project #3b: Storyboards ---

Storyboard **two** of your ten ideas from project #3a. One of these will become the beginning of your final project. CSAT Students – storyboard ONE.

- Begin by roughly sketching out the shots you need for your animation. At this stage you're just thinking through the camera positions and conceptualizing what's in your head. Each frame, therefore, should take no more than 30-seconds to sketch.
- Next, open up *storyboard\_template.psd* in Photoshop (it's located at Blackboard). Immediately rename this file as LASTNAME-FIRSTNAME-01-storyboard01.psd
- Turn each of your thumbnails into fully-rendered storyboard panels. Add the shot number too, along with any direction notes. Arrows can help illustrate movement. You may print out blank storyboard sheets and illustrate non-digitally but remember that you will have to scan/photograph each sheet when finished.
- Illustrate EVERY important visual scene. It is vital to storyboard as much as possible as this will help you get a sense of the timing of your final animation.

- When you complete the first sheet, save it and begin a new blank sheet using the original file from Blackboard. This time call it LASTNAME-FIRSTNAME-02-storyboard01.psd. Repeat until you have storyboarded the entire animation.
- Both of your stories should have a minimum of 16 frames. **Any less for each stories will automatically result in a grade of zero for this project.**
- You may also sketch the storyboards by hand but, if you do so, then scan or photograph the hand-drawn sheets.

### Grading

#### Grading Breakdown

- Completely cover every single shot you need for your both pieces of animation, along with every piece of action, and any necessary notes (50%)
- Effort (50%)
- Send the files to me as a series of JPEGs. The *storyboard\_template* is a PSD file so use File > Save as... JPEG.
- Be sure that both stories have a **minimum** of 16 panels.

### Due Date

Your storyboards must be emailed to [adumitrescu@sulross.edu](mailto:adumitrescu@sulross.edu) as a series of JPEG files no later than the beginning of class, on the date specified on the syllabus. Projects received after this time will receive a zero.

## ---Project #4: Lip-syncing---

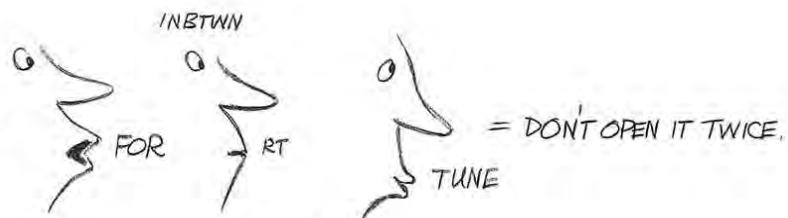
Using a decent recording device or smartphone record yourself saying a simple three word phrase. For example, "I am tired" or "Where are you?"

The **(KEY)** TO LIP SYNC IS GETTING THE FEELING OF THE WORD and NOT the INDIVIDUAL LETTERS  
 The IDEA IS NOT TO BE TOO ACTIVE - GET THE SHAPE OF THE WORD and MAKE SURE WE SEE IT.  
 SELECT WHAT'S IMPORTANT and AVOID FLAPPING THE MOUTH AROUND ANIMATING EVERY LITTLE THING.  
 ACTORS FITTING DIALOGUE OVER FOREIGN FILMS HIT ONLY THE ACCENTS and GLOSS OVER THE MIDDLE STUFF.  
 THEY MATCH THE FIRST VOWEL AT THE START OF THE SENTENCE and THE LAST ACCENT OF THE SENTENCE -  
 and WHAT'S IN BETWEEN WILL WORK (OR TEND TO WORK.)

THINK OF IT THIS WAY:

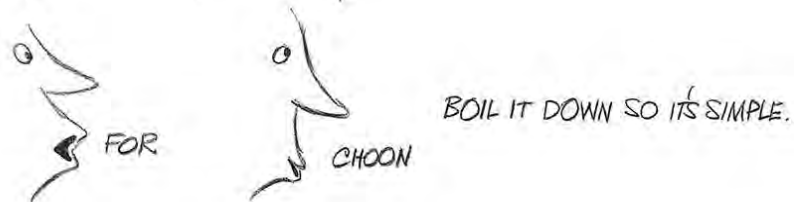
TAKE THE WORD "FORTUNE" -

DON'T DO THIS -



DO THIS:

JUST USE 2 POSITIONS.  
 GO FROM ONE  
 TO THE OTHER -



### Project Advice

- Make a timing chart of the phrase so you can accurately plan your animation. Using Opentoonz, bring your sound in by dragging a WAV file onto the X-sheet.

- You only need to animate the mouth so zoom in on that. If you do include the entire face then please remember to animate everything – eyes, nose, shape of face, etc.
- Don't animate each individual letter. Instead, focus on the general sounds.
- As in all animation, success comes from drawing strong keys – once you have these worked out, then the rest of the animation will flow.
- Your textbook is a great resource for this project, but you may also find the following useful: <http://www.keithlango.com/tutorials/old/lipSync.htm>

### Grading

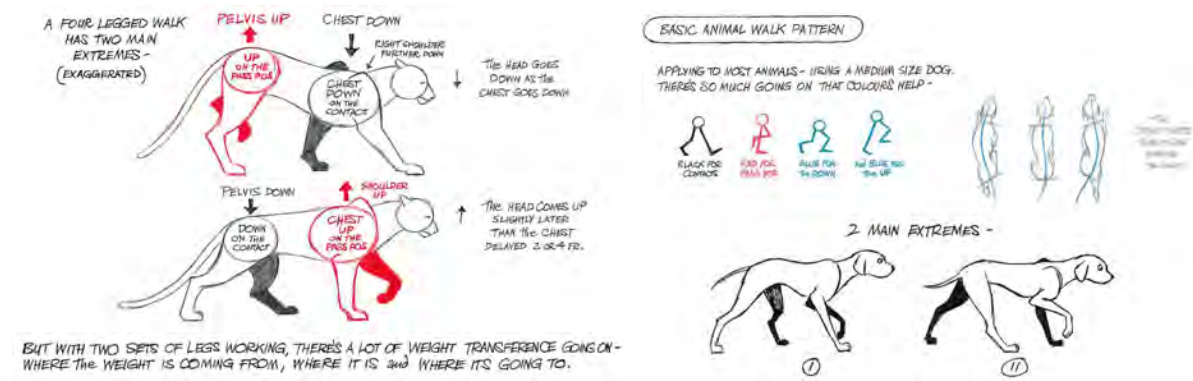
Grading breakdown:

- Animate accurately so that the mouth movement matches the audio. And be sure to provide the audio with your animation (100%).

### Due Date

Your animation must be uploaded to a YouTube.com account than the beginning of class, on the date specified in the calendar. Projects received after this time will receive a zero. Be sure to set the video to Public, not Private.

## ---Project #5: Animal Walks (LOOP) ---



Animate a side view of an animal walking. Choose either a horse or dog. You may choose another animal but please check with the professor first.

### Project Advice

- Ensure the last frame of your walk cycle leads onto the first so that the animal looks as if it's continuing to walk. Remember that the walk cycle must **repeat**.
- As before, begin by plotting out your key drawings, draw your breakdowns, and then refine from there.

### Grading

Grade breakdown:

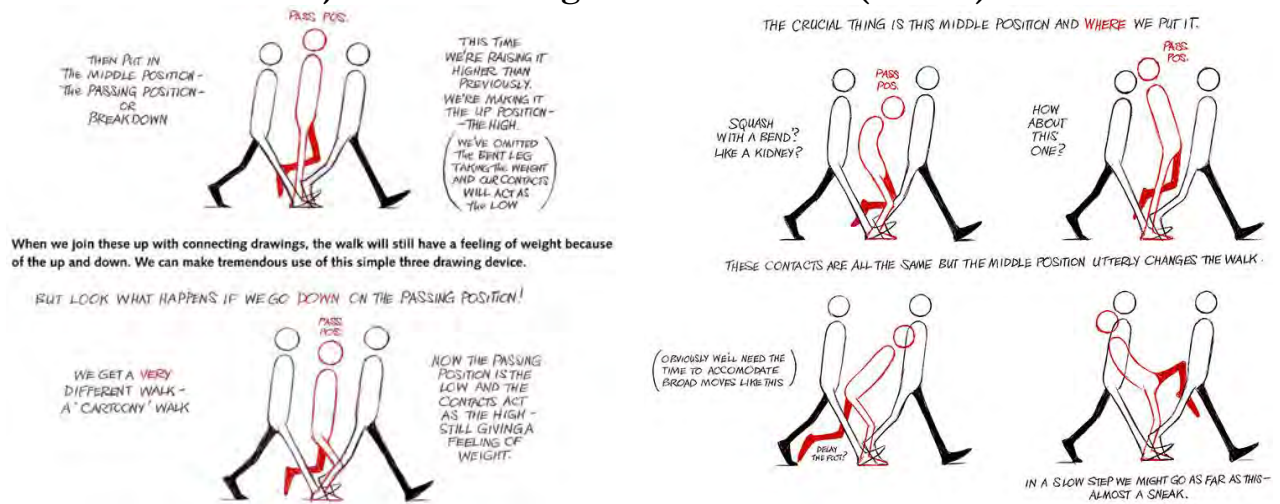
- Have your animal walk smoothly and realistically (70%).
- Ensure that ONE walk cycle lasts **at least** 24 frames for one second (10%).
- Animation **MUST** loop (20%)

### Due Date

Your animation must be uploaded to a YouTube.com account than the beginning of class, on the date specified in the calendar. Projects received after this time will receive a zero. Be sure to set the video to Public, not Private.



## ---Project #6: Walking with an emotion (LOOP)---



Animate a walk viewed from the side with an emotion of your choosing (for example, angry, meek, nervous, etc.).

### Project Advice

- Begin by creating your three passing positions.
- Now add an interesting breakdown (in this case, the middle drawing).
- Add arms and other details.
- Finally, add enough frames so the walk cycle animates smoothly and loops.

### Grading

Grade breakdown:

- Animate a walk that loops seamlessly (40%).
- Your animation shows a particular emotion (30%).
- Make the animation last long enough to show an entire walk cycle (30%).

### Due Date

Your animation must be uploaded to a YouTube.com account than the beginning of class, on the date specified in the calendar. Projects received after this time will receive a zero. Be sure to set the video to Public, not Private.

## ---OPTIONAL Project #7: Character jumping up and down (LOOP)---

From the front, animate a character jumping up and down. You want to show the following:

- Weight
- Squash and Stretch
- Ease in and ease out as they get to the top of their jump and begin falling down again
- Anticipation (the reverse of what they're about to do): they need to crouch, then spring up, stretch out, land, crouch, and repeat.

The animation must last between 2-5 seconds at 24fps.

### Grading

Grade breakdown:

- Ensure your animation LOOPS and that it lasts long enough to smoothly demonstrate a jump (60%).
- Crouching, springing up, stretching out, landing are all animated (30%).
- The speed of the jump eases in and out (10%).

### Due Date

Your animation must be uploaded to a YouTube.com account than the beginning of class, on the date specified in the calendar. Projects received after this time will receive a zero. Be sure to set the video to Public, not Private.

## ---Project #8: Character lifting a heavy object---

Animate a human character lifting a heavy object.

### Project Advice

Act this out! You do not have lift an actual heavy object but you can pretend:

1. Bend your knees and crouch.
  2. Put arms around object.
  3. Show strain.
  4. Lift half-way.
  5. Straighten back.
  6. Drop object.
- Sketch out each of the six keys. Break these down and then animate from there.
  - Expressions on the character's face will help emphasize each of the six keys.

### Grading

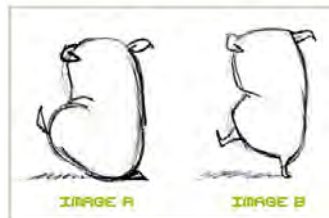
Do the following to pass this project:

- Have all six motions listed above.
- Animate smoothly.
- Include facial expressions to help convey each of the six keys above.

### Due Date

Your lifting animation must be emailed to [adumitrescu@sulross.edu](mailto:adumitrescu@sulross.edu) as a .MOV file no later than the beginning of class, on the date specified on the syllabus. Projects received after this time will receive a zero.

## ---Project #9: Flour Sack ---



***Tassels are used correctly in Image A whereas in Image B they become limbs and turn the flour sack into a walking roast chicken***

Illustrate 12 different expressions for a flour sack and then animate the transitions from three of them.

### Project Advice

This is a challenging exercise. Begin by sketching out the following emotions/actions (you should have twelve separate sketches).

- |               |             |               |
|---------------|-------------|---------------|
| 1) Calm       | 5) Tired    | 9) Excited    |
| 2) Depressed  | 6) Proud    | 10) Drunk     |
| 3) Frightened | 7) Lost     | 11) Exhausted |
| 4) Angry      | 8) Sluggish | 12) Dizzy     |

Pick three of the keys you created and animate the flour sack going from action/emotion **one** to action/emotion **two** to action/emotion **three**. Besides the shape of the flour sack, the only other elements you have are the four tassels. Remember that these ARE NOT limbs (see illustration above) but instead extra elements to enhance what you're trying to convey. Play with squash and stretch, shape change, and weight.

### **Grading**

Grade breakdown:

- Draw all twelve keys. Complete this by the end of the first class (20%).
- Show a smooth transition going from one emotion to the other - three keys in total (80%).

### **Due Date**

Your animation must be uploaded to a YouTube.com account than the beginning of class, on the date specified in the calendar. Projects received after this time will receive a zero. Be sure to set the video to Public, not Private.

## **---Final Project – 15/20 second animation---**

Turn your storyboard into a 15-second (CSAT) or 20-second (ARTC) animation.

### **Project Advice**

- You will have plenty of class time to work on this final project, but keep in mind that you WILL have to come to the lab outside the classroom times to complete it
- Stick to your storyboard – changes should not be made at this stage of your animation. However, you may redraw parts of your storyboard if you feel you have come up with a better sequence than what you currently have.
- 15 seconds at 24 frames per second translates to 360 drawings. Plan your time carefully!
- 15 seconds means **15 seconds of story and action**. You cannot fill up some of the time with credits or cards reading “The End.”

### **Grading**

Grade breakdown:

- Animate smoothly and consistently, i.e. elements should keep their basic shape from frame to frame (20%).
- Follow your storyboard closely (20%).
- Put a reasonable amount of effort into the project (30%).
- Ensure your animation lasts 15 seconds (30%).
- Sound effects/music are not necessary but will add to the overall project. This can be done in AfterEffects. Do not use copyrighted material.

### **Due Date**

Your animation must be uploaded to a YouTube.com account than the beginning of class, on the date specified in the calendar. Projects received after this time will receive a zero. Be sure to set the video to Public, not Private.

# KRITA QUICKSTART GUIDE

(taken from <https://tinyurl.com/y4t9nymw>)

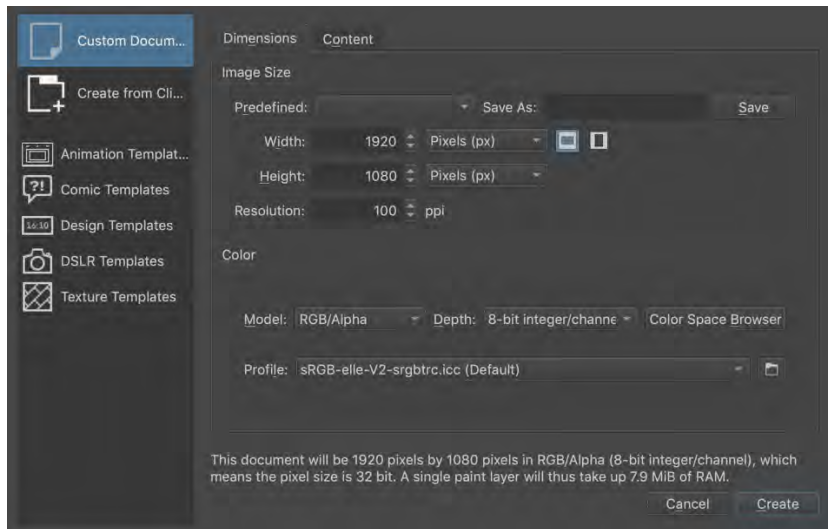
## DOWNLOAD

Free download from <https://krita.org/en/>

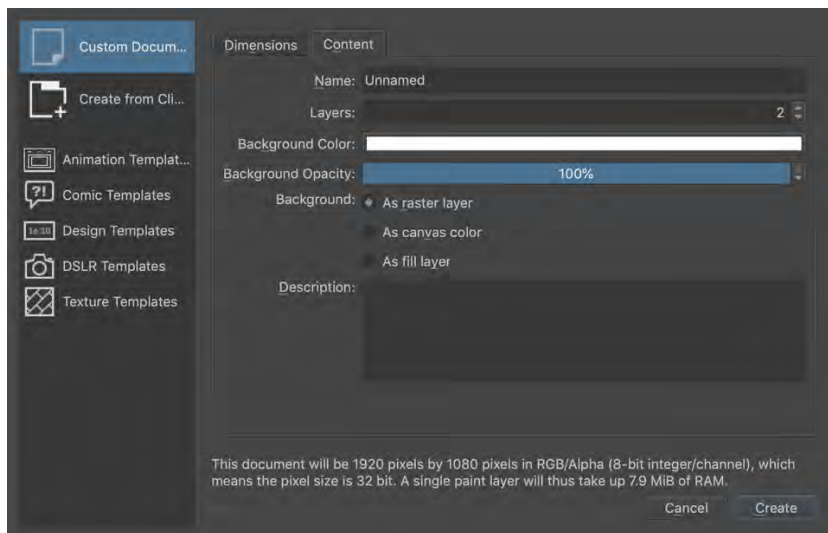
## SET UP

*File > New > Custom*

Set up your animation template:



Switch to the Content tab in this window to name your file, choose how many layers you want to begin with, and the background color:



Access animation features: *Settings > Dockers > Animation* and then *Settings > Dockers > Timeline*

## ANIMATING

Best practice when beginning a new animation is to create a new layer and draw on that. Ensure the lightbulb icon is on so that you can have onion skinning.

Draw on Frame 0.

Right-click on frame 01 and choose Create Blank Frame.

## LAYERS

Right-click on the timeline to generate a new layer. If a layer does not show in your timeline, right-click on your chosen layer and “Show in Timeline”.

## EXPORTING AN ANIMATION

You need to download the codec *FFMpeg* which can be found here: <https://ffmpeg.org>

Once installed and your animation is ready, File > Render Animation