

FOUNDATIONS OF ANIMATION SYLLABUS*

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Course Title: FOUNDATIONS OF ANIMATION

COURSE DESCRIPTION: This course teaches students how to create and deliver interactive content across desktops and devices with a focus on establishing a working knowledge of animation tools and techniques to include cel animation, Alice 2.4, 2D, Claymation, and Stop-Motion animation. Foundations of Animation examines the features of Adobe's popular Flash software that is the professional standard for producing high-impact Web sites using animation, video, text, graphics and audio. Students create rich media applications that span a wide variety of digital devices, from desktops to mobile devices.

The Foundations of Animation course incorporates Project Based Learning (PBL) by extending classroom learning to real world applications. Through investigation, analysis and presentation students will master South Carolina Content Standards and Success Skills that include creativity, critical thinking, communication, and collaboration. A minimum of 1 PBL will be incorporated each semester.

Ridge View High School believes in creating a community in which reading, writing, speaking, listening, and thinking are integrated into every class daily in order to strengthen literacy skills for each student.

OBJECTIVE: Given the necessary equipment, supplies, and facilities, the student will complete all of the following core standards successfully.

COURSE CREDIT: 1 unit

PREREQUISITE: Image Editing 1 and/or Web Page Design and Development 1

A. SAFETY

1. Review school safety policies and procedures.
2. Review classroom safety rules and procedures.
3. Review safety procedures for using equipment in the classroom.
4. Identify major causes of work-related accidents in office environments.
5. Demonstrate safety skills in an office/work environment.

B. STUDENT ORGANIZATIONS

1. Identify the purpose and goals of a Career and Technology Student Organization (CTSO).
2. Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.
3. Explain the benefits and responsibilities of being a member of a CTSO.
4. List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.
5. Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.

C. TECHNOLOGY KNOWLEDGE

1. Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation.
2. Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.
3. Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.
4. Explain the consequences of social, illegal, and unethical uses of technology (e.g., piracy; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).

5. Discuss legal issues and the terms of use related to copyright laws, fair use laws, and ethics pertaining to downloading of images, photographs, documents, video, sounds, music, trademarks, and other elements for personal use.
6. Describe ethical and legal practices of safeguarding the confidentiality of business-related information.
7. Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.

D. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS

1. Demonstrate punctuality.
2. Demonstrate self-representation.
3. Demonstrate work ethic.
4. Demonstrate respect.
5. Demonstrate time management.
6. Demonstrate integrity.
7. Demonstrate leadership.
8. Demonstrate teamwork and collaboration.
9. Demonstrate conflict resolution.
10. Demonstrate perseverance.
11. Demonstrate commitment.
12. Demonstrate a healthy view of competition.
13. Demonstrate a global perspective.
14. Demonstrate health and fitness.
15. Demonstrate self-direction.
16. Demonstrate life-long learning.

E. PROFESSIONAL KNOWLEDGE

1. Demonstrate effective speaking and listening skills.
2. Demonstrate effective reading and writing skills.
3. Demonstrate mathematical reasoning.
4. Demonstrate job-specific mathematics skills.
5. Demonstrate critical-thinking and problem-solving skills.
6. Demonstrate creativity and resourcefulness.
7. Demonstrate an understanding of business ethics.
8. Demonstrate confidentiality.
9. Demonstrate an understanding of workplace structures, organizations, systems, and climates.
10. Demonstrate diversity awareness.
11. Demonstrate job acquisition and advancement skills.
12. Demonstrate task management skills.
13. Demonstrate customer-service skills.

F. STORYBOARD FUNDAMENTALS

1. Create a story for a storyboard.
2. Describe the purpose of rich media and/or animation including the target audience.
3. Apply brainstorming techniques to focus development efforts.
4. Create scene-by-scene illustrations.
5. Outline and link action sequences.

G. INTRODUCING COMPUTER ANIMATION

1. Define terms related to computer animation.
2. Identify computer animation elements.
3. Identify uses of computer animation.
4. Define industry standard animation principles.
5. Identify career options in the animation industry.

H. GETTING STARTED WITH COMPUTER ANIMATION

1. Use menu bars, command panels, and software
2. Demonstrate the ability to select objects and sub
3. Set movie dimensions and movie properties.

I. DRAWING

1. Create objects using drawing tools.
2. Edit drawings.
3. Work with objects.
4. Work with text.
5. Work with layers.
6. Create a gradient.
7. Transform an object.

J. WORKING WITH SYMBOLS AND INTERACTIVITY

1. Work with symbols and instances.
2. Work with libraries.
3. Create buttons.
4. Assign actions to buttons.

K. CREATING ANIMATIONS

1. Create frame animations (stop motion).
2. Create motion-tweened animation.
3. Work with motion guides.
4. Animate text.

L. CREATING SPECIAL EFFECTS

1. Create shape tween animations.
2. Create a mask effect.
3. Add a filter effect to objects and type.
4. Apply effects using timeline transitions.
5. Create an animation sequence.

M. IMPORTING AND MODIFYING GRAPHICS

1. Demonstrate an understanding of importing graphics.
2. Break apart bitmaps.
3. Use bitmap fills.
4. Trace bitmap graphics.

5. Use imported graphics in a movie.

N. BUILDING COMPLEX ANIMATIONS

1. Create a graphic symbol.
2. Create a movie clip symbol.
3. Create a button symbol.
4. Animate movie clips with button symbols.

O. USING BASIC ACTIONSCRIPT

1. Demonstrate the ability to work with actions.
2. Demonstrate the ability to work with targets and movie clip symbols.
3. Demonstrate navigation techniques with actions.
4. Create interactive movie clip symbols.

P. ADDING SOUNDS

1. Incorporate sound in to animations.
2. Edit and modify sounds.
3. Use ActionScript with sounds.

Q. PREPARING AND PUBLISHING MOVIES

1. Publish a movie.
2. Reduce file size to optimize a movie.
3. Publish an animation using a variety of Publish Settings.
4. Add rich media/dynamic content created in Flash to a WebPage

Note* The instructor reserves the right to change or alter this document as needed.

INSTRUCTIONAL MATERIALS, SUPPLIES, AND EQUIPMENT:

All books and equipment are provided by the instructor. Students are required to provide paper, pencil, pen, 3-Ring Binder, and **8GB (4GB minimum) flash drive**.

REQUIRED TEXTBOOKS / INSTRUCTIONAL MATERIAL:

Chun, Russell. Adobe Flash CS4 Professional Classroom in a Book Adobe Systems Inc. San Jose, California 2009

Chun, Russell. Adobe Fireworks CS4 Classroom in a Book Adobe Systems Inc. San Jose, California 2009

Chun, Russell. Adobe Photoshop CS4 Classroom in a Book Adobe Systems Inc. San Jose, California 2009

Various Reference materials will be utilized during this course.

TUTORING SCHEDULE:

- **Monday 7:25am – 7:55am**
- **Tuesday 7:25am – 7:55am**
- **Thursday 7:25am – 7:55am**
- **Friday 7:25am – 7:55am**

EVALUATION SYSTEM: Students will be given five (5) minutes to calculate and record his/her class average and attendance each Friday and will be graded using the following criteria each grading period.

Grades will be updated regularly, no later than Monday of the following week.

“Students will be held to the Academic Integrity policy of Richland District 2.”

Daily Grade = 20% to include:

- Attendance
- Participation
 - Includes bringing required supplies and Flash-drive to class each day.
- Safety
- Leadership

Quizzes = 20%

Projects = 60%. (Rubric is located @ <http://www.rvhs-aplus.com>)

- Preparation
- Logical Sequence
- Accuracy
- Completed on-time

Final Project = 20% of Final Grade

GRADING CRITERIA:

A = 100 – 90

B = 89 – 80

C = 79– 70

D = 69 – 60

F = 59 or below

CLASSROOM EXPECTATIONS:

1. Enter the classroom quietly before the tardy bell rings.
2. Begin working on class assignments when you enter classroom.
3. Do not sit on top of tables, desks, or AC Unit.
4. Only one student may leave the classroom at any time during class.

5. No Food or Drinks are allowed.
6. No horse-playing is allowed.
7. Do not energize any equipment without permission.
8. You are responsible for cleaning up after yourself.
9. Listen to the teacher and follow his instructions.
- 10. No electronic device usage (i.e., cell phones, headphones) in classroom in accordance with Ridge View High School Electronic Communication Device Protocol.**

PENALTIES FOR VIOLATING CLASS EXPECTATIONS :

Rule 1

- Ridge View High School Tardy Policy

Rules 2, 3, 4, 9

- First Offense: Oral Warning
- Second Offense: Conference with Parents
- Third Offense: Discipline Referral

Rule 5

Students may only leave the classroom in case of an emergency. If the student leaves the classroom without permission or goes anywhere except to the destination where permission was granted, the student will be referred to an Administrator.

Rules 6, 7, & 8

- First Offense: Conference with Parents and Administration Notified
- Second Offense: Discipline Referral
- Third Offense: Discipline Referral

Rule 10 - Ridge View High School Electronic Communication Device Protocol

Please refer to the school and district policy concerning Electronic Communication Devices (ECDs) at <https://www.richland2.org/rvh>. In addition, the Ridge View High School ECD Protocols will be followed as outlined below:

- Students will NOT be allowed to take out their cell phones during class.
- No use of cell phones in bathrooms or locker rooms for the purpose of capturing images, audio, or video.
- No cell phone usage in classrooms (except for educational purposes).
- No recreational cell phone breaks.
- No stepping out of class to take/make important calls.

Free zones include: Hallways and Cafeteria.

Teachers agree to follow this protocol when students take cell phones out in class.

- **1st Offense:** Contact Parents - Teacher will ask student to put phone/ECD away and contact parents explaining the issue in class. Teacher should fill out short form and keep a copy for their personal records.

If student does not cooperate when asked to put away phone, then call administrator for assistance.

- **2nd Offense:** Contact Administrator - Teacher will fill out long form, use copies of short form to include date of verbal warning and date of parent contact. Teacher will immediately contact an administrator for assistance.
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SCOPE AND SEQUENCE

Foundations of Animation

Grading Period	Timeline	Objectives
1st Quarter	Days 1 - 10	1) Orientation to course 2) Safety 3) Student Organizations
	Days 11 - 16	Digital Imaging & Animation Careers / Group Project
	Days 17 - 45	<p>Adobe Fireworks CS4 Classroom in a Book</p> <p>Chapter 1 Lesson Overview - Getting to know the workspace</p> <ol style="list-style-type: none"> a. Set up a new document. b. Open an existing document. c. Draw a vector shape. d. Get acquainted with the Tools Panel. e. Save a file. f. Use the Property inspector to change attributes of a selected object. g. Reconfigure the workspace. h. Save a custom workspace. i. Work with multiple documents in Tab view. j. Use the History panel. k. Navigate to Fireworks Help. <p>Chapter 2 Lesson Overview - Working with bitmaps</p> <ol style="list-style-type: none"> a. Select and use some of the bitmap tools in the Tools panel b. Open and import bitmap images in Fireworks c. Use a variety of methods to crop images d. Set options for a selected tool using the Property Inspector e. Use guides to help position and align images. f. Use the 9-Slice Scaling tool to scale bitmap images g. Use various bitmap tools and filters to adjust brightness, contrast, and tonality of bitmap images h. Correct images using the Rubber Stamp tool i. Align objects on the canvas using the Align Panel <p>Chapter 3 Lesson Overview - Working with selections</p>

- a. Make specific areas of an image active using selection tools
- b. Create a selection with the Magic Wand tool
- c. Adjust the edge of a bitmap selection
- d. Apply corrective filters to a selection
- e. Make complex selections using the Lasso and Magic Wand tools
- f. Modify a bitmap selection
- g. Save a bitmap selection for future use
- h. Deselect a selection
- i. Convert a bitmap selection to a path

Chapter 4 Lesson Overview - Working with Vector Graphics

- a. Draw simple vector shapes
- b. Use guides to place objects on the canvas
- c. Learn the difference between vector and bitmap images
- d. Use the 9-Slice Scaling tool to scale vector shapes
- e. Learn how to use Auto shapes
- f. Create paths with the Pen tool
- g. Edit paths with the Pen and Subselection tools
- h. Create a custom shape
- i. Customize the fill and stroke of a vector shape

Chapter 5 Lesson Overview - The Layer Panel - Your Best Friend

- a. Create new layers
- b. Create sub layers
- c. Change the stacking order of layers
- d. Rename layers
- e. Protect layers and objects
- f. Access layer options

Chapter 6 Lesson Overview - Masking

- a. Create a bitmap mask from a selection
- b. Edit a bitmap mask using the Brush tool
- c. Create a vector mask from a custom vector shape
- d. Edit the vector mask and change its properties using the Property Inspector
- e. Use the Auto Vector Mask command

Chapter 7 Lesson Overview - Working with text

- a. Create both fixed width and auto-sizing text blocks
- b. Edit the text properties
- c. Use commands to alter text

- d. Use the transform tools to scale, rotate, and distort text
- e. Use text as a mask
- f. Attach text to a path
- g. Flow text within a vector shape

Chapter 8 Lesson Overview - Optimizing for the web

- a. Export a single image to a web-ready format
- b. Determine the optimal web format for a sliced graphic
- c. Use the Optimize panel and Preview views to optimize images
- d. Slice up graphics in a web page mockup using the slicetool
- e. Create a rollover effect using the Slice tool and interactivity using the Hotspot tool
- f. Export an interactive mockup of a website
- g. Export a single page as a standards-based CSS and HTML web page

Chapter 9 Lesson Overview - Using symbols

- a. Create and edit a graphic symbol
- b. Create and edit an animation symbol
- c. Create and edit a button symbol
- d. Save a symbol to the common library

Chapter 10 Lesson Overview - Prototyping Basics

- a. Create a multipage mockup
- b. Share layers to multiple pages
- c. Use the Hotspot tool to create interactivity between pages
- d. Preview a mockup design in a web browser
- e. Export a secure, interactive PDF file

Chapter 11 Lesson Overview - Advanced Prototyping

- a. Create a multipage website mockup
- b. Use the slice tool to slice up graphics in a web page mockup
- c. Use the Slice tool to create a rollover effect
- d. Use the Hotspot tool to trigger a disjointed rollover (pop-up window)
- e. Simulate a Spry data table (disjointed rollovers)
- f. Preview an interactive web page design in a web browser
- g. Export an interactive mockup of a website

2nd Quarter

Days 46 - 90

Adobe Photoshop CS4 Classroom in a Book
Chapter 1 Lesson Overview - Getting to know the work area

- a. Open Adobe Photoshop files
- b. Select and use some of the tools in the ToolsPanel
- c. Set options for a selected tool using the optionbar
- d. Use various methods to zoom in and out on an image
- e. Select, rearrange, and use panels
- f. Choose commands in panel and context menus
- g. Open and use a panel docked in the panel well
- h. Undo actions to correct mistakes or to make different choices
- i. Customize the workspace
- j. Find topics in Photoshop Help

Chapter 2 Lesson Overview - Basic Photo corrections

- a. Understand image resolution and size
- b. Straighten and crop an image
- c. Remove a color cast from an image using Auto color correction
- d. Adjust the saturation and brightness of isolated areas of an image using the Sponge and Dodge tools
- e. Use the Clone Stamp tool to eliminate an unwanted part of an image
- f. Use the Spot Healing Brush tool to repair part of an image
- g. Use Healing Brush and Patch tools to blend in correction
- h. Apply the Unsharp Mask filter to finish the photo-retouching process
- i. Save an image file for use in a page-layout program

Chapter 3 Lesson Overview - Working with selections

- a. Make specific areas of an image active using selection tools
- b. Reposition a selection marquee
- c. Move and duplicate the contents of a selection
- d. Use keyboard-mouse combinations that save time and hand motions
- e. Deselect a selection
- f. Constrain the movement of a selected area
- g. Adjust the position of a selected area using the arrow keys
- h. Add to and subtract from a selection
- i. Rotate a selection
- j. Use multiple selection tools to make a complex selection
- k. Erase pixels within a selection

Chapter 4 Lesson Overview - Layer Basics

- a. Organize artwork on layers
- b. Create, view, hide, and select layers
- c. Rearrange layers to change the stacking order of artwork in the image
- d. Apply blending modes to layers

- e. Apply a gradient to a layer
- f. Apply a filter to a layer
- g. Add text and layer effects to a layer
- h. Save a copy of the file with the layers flattened

Chapter 5 Lesson Overview - Masks and channels

- a. Refine a selection using a quick mask
- b. Save a selection as a channel mask
- c. View a mask using the Channels panel
- d. Load a saved mask
- e. Edit a mask using the Masks Panel
- f. Apply filters, effects, and blending modes to a mask
- g. Move an image within a mask
- h. Create a layer mask
- i. Paint in a mask to modify a selection
- j. Make an intricate selection using the Quick Selection tool
- k. Create and use a gradient mask
- l. Isolate a channel to make specific image corrections
- m. Create a high-quality grayscale image by mixing channels

Chapter 6 Lesson Overview - Correcting and enhancing digital photographs

- a. Process a proprietary camera raw image and save your adjustments
- b. Make typical corrections to digital photograph, including removing red eye and noise and bringing out shadow and highlights detail
- c. Adjust the visual perspective of objects in an image using the Vanishing Point filter
- d. Apply optical lens correction to an image
- e. Align and blend two images to extend the depth of field
- f. Prepare a PDF image gallery of your corrected images
- g. Adopt best practices for organizing, managing, and saving your images

Chapter 7 Lesson Overview - Typographic design

- a. Use guides to position text in a composition
- b. Make a clipping mask from type
- c. Merge type with other layers
- d. Use layer styles with text
- e. Preview typefaces interactively to choose them for a composition
- f. Control type and positioning using advanced type panel features
- g. Warp a layer around a 3D object

Chapter 8 Lesson Overview - Vector Drawing techniques

- a. Differentiate between bitmap and vector graphics.
- b. Draw straight and curved paths using the Pen tool.
- c. Convert a path to a selection, and convert a selection to a path.
- d. Save paths
- e. Draw and edit layer shapes.
- f. Draw custom layer shapes.
- g. Import and edit a Smart Object from Adobe Illustrator

Chapter 9 Lesson Overview - Advanced Layering

- a. Import a layer from another file.
- b. Clip a layer.
- c. Create and edit an adjustment layer.
- d. Use vanishing Point 3D effects with layers.
- e. Create layer comps to showcase your work.
- f. Manage layers.
- g. Flatten a layered image.
- h. Merge and stamp layers.

Chapter 10 Lesson Overview - Advanced Compositing

- a. Add guides to help you place and align images precisely.
- b. Save selections and load them as masks.
- c. Apply color effects only to unmasked areas of an image.
- d. Apply layer styles to create editable special effects.
- e. Record and play back an action to automate a series of steps.
- f. Blend images to create a panorama.

Chapter 11 Lesson Overview - Preparing files for the web

- a. Slice an image in Photoshop
- b. Distinguish between user slices and auto slices.
- c. Link user slices to other HTML pages or locations.
- d. Define rollover states to reflect mouse actions.
- e. Preview rollover effects.
- f. Create simple animated GIFs using a layered file.
- g. Use the layers and animation panels to create animation sequences.
- h. Tween frames to create smooth transitions.
- i. Preview animations in a web browser.
- j. Optimize images for the web and make good compression choices.
- k. Export large, high-resolution files that tile for zooming and panning.
- l. Showcase your images in a Media Gallery.

		<p>Chapter 12 Lesson Overview - Working with 3D images</p> <ol style="list-style-type: none"> a. Create a 3D shape from a layer. b. Manipulate 3D objects using the 3D Orbit tool. c. Adjust the position of lighting using the Rotate Light tool. d. Configure options in the 3D panel. e. Adjust light sources. f. Import 3D objects. g. Manipulate objects using the 3D Axis tool. h. Paint on a 3D object. i. Apply the 3D postcard effect. j. Animate a 3D file. <p>Chapter 13 Lesson Overview - Working with scientific images</p> <ol style="list-style-type: none"> a. Use Adobe Bridge to add metadata and keywords. b. Search across a collection of files with Bridge. c. Label, rank, and sort images in Bridge. d. Enhance images for analysis and presentation. e. Create a custom dashed-line border. f. Use the Measurement tool. g. Record measurement data in the Measurement Log Panel. h. Export spreadsheet data from the Measurement Log Panel. i. Measure in perspective using the Vanishing Point feature. j. Animate a presentation. <p>Chapter 14 Lesson Overview - Producing and printing consistent color</p> <ol style="list-style-type: none"> a. Define RGB, grayscale, and CMYK color spaces for displaying, editing, and printing images. Prepare an image for printing on a Postscript CMYK printer. b. Proof an image. c. Save an image as a CMYK EPS file. d. Create and print a four-color separation. e. Understand how images are prepared for printing on presses.
<p>3rd Quarter / 4th Quarter</p>	<p>Days 136 - 175</p>	<p>Adobe Flash CS4 Professional Classroom in a Book</p> <p>Chapter 1 Lesson Overview: Getting Started</p> <ol style="list-style-type: none"> a. Create a new file in Flash b. Adjust stage settings in the Property inspector c. Add layers to the timeline d. Manage key frames in the timeline

- e. Work with imported images in the library
- f. Move and reposition objects on the stage
- g. Open and work with panels
- h. Select and use tools in the tools panel
- i. Preview your Flash animation
- j. Search for topics in Flash Help
- k. Access online resources for Flash

Chapter 2 Lesson Overview: Working with Graphics

- a. Draw rectangles, ovals, and lines
- b. Understand the difference between drawing modes
- c. Modify the shape, color, and size of drawn objects
- d. Understand fill and stroke settings
- e. Make symmetrical patterns
- f. Create and edit curves
- g. Apply gradients and transparencies
- h. Group elements
- i. Create and edit text

Chapter 3 Lesson Overview: Creating and Editing Symbols

- a. Import Illustrator and Photoshop files
- b. Create new symbols
- c. Edit symbols
- d. Understand the difference between symbols and instances
- e. Adjust transparency and color
- f. Apply blending effects
- g. Apply special effects with filters
- h. Position objects in 3D space

Chapter 4 Lesson Overview: Adding Animation

- a. Animate the position, scale, and rotation of objects
- b. Adjust the pacing and timing of your animation
- c. Animate transparency and special effects
- d. Change the path of the motion
- e. Create animation inside symbols
- f. Change the easing of the motion
- g. Animate in 3D space

Chapter 5 Lesson Overview: Articulated motion and morphing

- a. Animate armatures with multiple linked movie clips

- b. Constrain the joints
- c. Animate armatures with shapes
- d. Morph organic shapes with shape tweens
- e. Use shape hints to refine shape tweens

Chapter 6 Lesson Overview: Creating Interactive Navigation

- a. Create button symbols
- b. Add sound effects to buttons
- c. Duplicate symbols
- d. Swap symbols and bitmaps
- e. Name button instances
- f. Write ActionScript to create nonlinear navigation
- g. Create and use frame labels

Chapter 7 Lesson Overview: Working with sound and video

- a. Import sound files
- b. Edit sound files
- c. Use the Adobe Media Encoder
- d. Understand video and audio encoding options
- e. Play external video from your Flash component
- f. Work with video that contains alpha channels
- g. Embed video in your Flash project

Chapter 8 Lesson Overview: Using components

- a. Add a simple component to a project
- b. Modify a component's parameters
- c. Configure an interactive component
- d. Use ActionScript to enable a component

Chapter 9 Lesson Overview: Loading and controlling Flash content

- a. Load an external SWF file
- b. Remove a loaded SWF file
- c. Control a movie clip's timeline
- d. Use masks to selectively display content

Chapter 10 Lesson Overview: Publishing Flash Documents

- a. Test a Flash document
- b. Understand the bandwidth profiler
- c. Change publish settings for a document
- d. Understand the difference between export file types

		<ul style="list-style-type: none">e. Add Metadataf. Publish a SWF file and its HTML fileg. Detect the version of Flash Player a viewer has installedh. Publish a self-contained projector file
Last Week of School	Days 176 - 180	FINAL EXAMINATION SCHEDULE