SPRING GROVE AREA SCHOOL DISTRICT

PLANNED COURSE OVERVIEW

Course Title: Computer Animation 2	**Length of Course:** 15 cycles
Grade Level(s): 10-12	**Periods Per Cycle:** 6
Units of Credit: .5	**Length of Period:** 43 minutes
Classification: Elective	**Total Instructional Time:** 64.5 hours

Course Description

This course is designed to give students a continuation of Computer Animation 1, allowing more involvement with animation and each of the individual areas of an animation studio. A study into the history of computer animation will be explored. Backdrops will be introduced along with more advanced modeling techniques. Blender will be the primary program with the option of incorporating new programs that become available and suit the current need of the class. The class will be geared towards making final 3-D animation shorts for commercials, sport entertainment, and television spots (such as station breaks) and product demos.

Instructional Strategies, Learning Practices, Activities, and Experiences

Critical Thinking	Guided Practice	Class Discussion
Best Practices Strategies	Flexible Groups	Posted Objectives and Agenda
Bell Ringers	Teacher Demonstration	Listening Examples

Assessments

In-class Projects and Lessons

Materials/Resources

Variety of Art Books	Animated Shorts	Computers/Internet

Adopted: 8/20/07

Revised: 6/20/11; 5/21/18

Advanced Animation	
CONTENT/KEY CONCEPTS	**OBJECTIVES/STANDARDS**
The students will demonstrate knowledge needed to produce an advance animation. Image to production animation Insert audio into animation Integrate with video production What is 3-D animation? What is a backdrop? What is Modeling? What is Animation? What is rendering? What is dynamics? What is lighting? What is a walk sequence? What is a path? What is a polygon? What is a nurb?	The students will demonstrate knowledge needed to produce an advanced animation. The students will demonstrate knowledge needed to use camera paths. The students will demonstrate knowledge needed to render animations. The students will demonstrate knowledge needed to use physics. The students will demonstrate knowledge needed to apply textures and materials. The students will demonstrate knowledge needed to light a scene. Vocabulary: animation, timeline, cell, flat, transition, tween, dynamics, render, model, layer, opacity, background painting, bone, cartoon, depth of field, field, frame rate, key frame, listener, pixel , raster, rotoscoping, separation, squash, stretch, stop-motion, animation vector, 2-D animation, 3-D animation, index of refraction (IOR), Fresnel, nodes, empty, armature, lattice, rip, deformation, knife cut, curve, Boolean, bevel, camera path, screw, spin Standards: 3.6.12.B ~ Analyze knowledge of information technologies of processes encoding, transmitting, receiving, storing, retrieving, and decoding. 3.7.12.C ~ Evaluate computer operations and concepts as to their effectiveness to solve specific problems.

Video Production	
CONTENT/KEY CONCEPTS	**OBJECTIVES/STANDARDS**
The students will plan and develop video productions. Introduction to digital video Setup a video project and capture video Design and develop video presentations What is a video short? What is composition? What is point of view? How do we set up a scene? What is the use of markers? How can lighting set the mood?	The students will demonstrate knowledge needed to produce a video short. The students will demonstrate knowledge needed to set up a scene. The students will demonstrate knowledge needed to use markers. The students will demonstrate knowledge needed to light a scene. Vocabulary: above the line, Alpha Channel (AC), accent light, acetate base, acetone, acoustics, action cutting, Analog to digital converter (ADC), Automated dialogue replacement (ADR), address track, aerial shot, aliasing, ambient light, ambient noise, amplitude, amplitude, distortion angle of view, anti-aliasing, aperture, arc, assemble, atmosphere, audible spectrum, background, backing track, backlight, balanced, beat, bed, beef, bit, blocking, boom, camera angle, center track, cinex strip, click track, compression, control track, crossfade, crossover, cueing, cyan, decoder, dead spot, digital, dissolve, distortion, drop-in, drop frame, drop-out, dub, echo fade, filter, flat, flicker, float, flood, format, frame, frame rate, freeze frame, gigabyte, incoming scene, key light, key numbers, kick, kiss, lamp, level, light value, looping, master, magenta, masking, matching, microphone, Musical Instrument Digital Interface (MIDI), mix, multichannel, multitrack, negative, noise, offline, online, opacity, out-take, pan, play, playback, rough cut, score, sensitivity, sight line, signal, sound effect, soundtrack, tie in, timing, trailer, video, widescreen, zoom Standards: 3.6.12.B ~ Analyze knowledge of information technologies of processes encoding, transmitting, receiving, storing, retrieving and decoding. 3.7.12.C ~ Evaluate computer operations and concepts as to their effectiveness to solve specific problems.

Enhance Video Effects	
CONTENT/KEY CONCEPTS	**OBJECTIVES/STANDARDS**
After effects What programs are available to use for video effects? How can we use effects to get the desired shot for an individual scene? Why are titles important? What advanced editing technique can we use?	The students will demonstrate knowledge needed to create titles. The students will demonstrate knowledge needed to superimposing clips. The students will demonstrate knowledge needed to use advanced editing. The students will demonstrate knowledge needed to enhance video production. Vocabulary: air brush, alpha channel, anchor point, anti-aliasing, background color, black, blur, brush, brushes palette, burn tool, cache, channels, clone, cyan, magenta, yellow, black (CMYK), copy, crop, curves, cut, diameter, dither, dodge, dots per inch (DPI), duplicate, Encapsulated PostScript (EPS), extract, eyedropper, fade, feather, file, flattening, font, foreground color, ghosting, GIF, gigabyte, gradient, grayscale, guide, hand tool, handle, history palette, image, import, J Kerning, kilobyte, lasso tool, layer, line screen, line tool, magic wand tool, magnetic pen tool, menu bar, mode, moiré, move tool, navigate, noise, opacity, opaque, options bar, original, overlay, paint bucket, palette, pantone colors, paste, patch tool, path selection, Portable Document Format (PDF), pen tool, pencil tool, perspective, pixel, rasterize, resolution, reverse, rotate, scale, selective color, selection, slice tool, smudge tool, spot color, swatches palette, Tagged Image Format Files (TIFF), transparency, type tool, unsharpened mask, vector, workspace, yellow, zoom tool Standards: 3.6.12.B ~ Analyze knowledge of information technologies of processes encoding, transmitting, receiving, storing, retrieving and decoding. 3.7.12.C ~ Evaluate computer operations and concepts as to their effectiveness to solve specific problems.