Milford Public Schools Curriculum Map

Department: Technology Education
Course Number and Name: 3D Modeling & Animation 2
Course Objective: Overview of developing a 3D animation—from modeling to rendering: Basics of surfacing, lighting, animation, and modeling techniques. Advanced topics: compositing, particle systems, and character animation.
Course Description: Ever wonder why animated movies and games today look so real? This course is for students interested in producing digital animation for advertising, TV graphics, entertainment and game design. Students will explore the techniques used to create 3D animation using the Autodesk 3DS Max software. Students will begin with basic storyboarding and pre-production skills to plan and create original projects including creating an animated solar system, making original characters come to life, as well as producing a video. Prerequisite: 3D Modeling and Animation 1.

STANDARDS	***3D Modeling & Animation 2 MAPPING***	***DURATION***	***SCHOOL WEEK***	
Module 5:	**Particle Illusion 101**		15	
UNIT 18:	**Super Spray**			
PERFORMANCE STANDARD 4.7 : APPLY DYNAMICS TO A SCENE	Super Spray Space Warps Particle Effects	3 Days		
UNIT 19:	**Ocean Waves & Fountain of Youth**		16	
PERFORMANCE STANDARD 4.7 : APPLY DYNAMICS TO A SCENE	Super Spray 2 Ripple Space Warps Moving Textures Skys and backgrounds	5 Days		
UNIT 20:	**Snow & Rain**		17	
PERFORMANCE STANDARD 4.7 : APPLY DYNAMICS TO A SCENE	Super Spray	2 Days		
UNIT 21:	**Smoke & Explosions**			
PERFORMANCE STANDARD 4.7 : APPLY DYNAMICS TO A SCENE	Super Spray	3 Days		
Module 6:	**Introduction to Lighting**		18	

UNIT 22:	**Lighting Overview**			
PERFORMANCE STANDARD 4.3 : CREATE AND APPLY LIGHTING	Local vs. Global Illumination Choosing a Lighting Strategy	1 Day		
UNIT 23:	**Standard Lighting**			
PERFORMANCE STANDARD 4.3 : CREATE AND APPLY LIGHTING	Fundamentals of Standard Lighting Types of Standard Lights Shadow Types Photometric Light Objects Exposure Control Daylight Lighting	4 Days		
Moduel 7:	**Rendering and Animation**			
UNIT 24:	**Rendering**			
PERFORMANCE STANDARD 4.4 : UTILIZE CINEMATOGRAPHY IN ANIMATION	Iterative Rendering Single vs. Double-Sided Rendering Camera Parameters Background Images The Print Size Wizard Selected Rendering Options Rendering Presets	2 Days	19	
PERFORMANCE STANDARD 4.6 : DEMONSTRATE KNOWLEDGE OF ANIMATION				
PERFORMANCE STANDARD 4.8 : DEMONSTRATE AN UNDERSTANDING OF RENDERING TECHNIQUES				
PERFORMANCE STANDARD 5.1 : CREATE FINAL OUTPUT				
UNIT 25:	**Principles of Animation**			
CONTENT STANDARD 3.0 : DEMONSTRATE KNOWLEDGE OF PRE-PRODUCTION PROCESSES	#1 Squash and Stretch	3 Days	20	

PERFORMANCE STANDARD 3.2 : DEMONSTRATE KNOWLEDGE OF VISUAL DESIGN	#9 Timing			
PERFORMANCE STANDARD 3.3 : APPLY THE PRINCIPLES OF ANIMATION	#2 Anticipation			
PERFORMANCE STANDARD 3.4 : CREATE STORYBOARDS	#3 Staging			
PERFORMANCE STANDARD 3.5 : UNDERSTAND PRODUCTION MANAGEMENT	#4 Straight Ahead and Pose to Pose Animation			
PERFORMANCE STANDARD 4.5 : APPLY RIGGING TO MODELS	#5 Follow Through and Overlapping Action			
PERFORMANCE STANDARD 4.6 : DEMONSTRATE KNOWLEDGE OF ANIMATION	#6 Slow-Out and Slow-In			
PERFORMANCE STANDARD 4.7 : APPLY DYNAMICS TO A SCENE	#7 Arcs			
	#8 Secondary Action			
	#10 Exaggeration			
	#11 Solid Drawing/Modeling			
	#12 Appeal			
Module 8:	**Independent Project**			
UNIT 26:	**Applied Principles of Animation**			
PERFORMANCE STANDARD 3.3 : APPLY THE PRINCIPLES OF ANIMATION	Independent Project	5 Days	21	
PERFORMANCE STANDARD 4.1 : DEMONSTRATE MODELING TECHNIQUES				
PERFORMANCE STANDARD 4.2 : APPLY SURFACE AND TEXTURE				
PERFORMANCE STANDARD 4.3 : CREATE AND APPLY LIGHTING				
PERFORMANCE STANDARD 4.6 : DEMONSTRATE KNOWLEDGE OF ANIMATION				

PERFORMANCE STANDARD 4.7 : APPLY DYNAMICS TO A SCENE				
PERFORMANCE STANDARD 5.1 : CREATE FINAL OUTPUT				
PERFORMANCE STANDARD 6.1 : DEVELOP, MAINTAIN, AND PRESENT A BODY OF WORK				
PERFORMANCE STANDARD 6.2 : DEMONSTRATE THE PROCESS OF EVALUATING PORTFOLIOS				