ADVANCED ANIMATON
COURSE CODE: 5351
STUDENT PROFILE

Student's Name		Teacher's Name	
School Year/Semester	**Date Began**	**Date Completed**	**Grade**

Directions: Document student's progress using the applicable rating scales below: Enter date of completion under the appropriate column.

0 - Has not received instruction in this area / **no experience or knowledge of this task (N/A)**
1 **–** Requires additional instruction and or **close supervision (60-69)**
2 **–** Can perform the task completely with **limited supervision (70-79)**
3 – Can apply and perform **independently (80-100)**

A. SAFETY		0	1	2	3
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		0	1	2	3
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	Explain the consequences of social, illegal, and unethical uses of technology (e.g., piracy; cyberbullying; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).				
5	Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.				

C. TECHNOLOGY KNOWLEDGE		0	1	2	3
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; cyberbullying; 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		**0**	**1**	**2**	**3**
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 lifelong learning.				
E. PROFESSIONAL KNOWLEDGE		**0**	**1**	**2**	**3**
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. PRE-PRODUCTION: ADVANCED STORYBOARDING		**0**	**1**	**2**	**3**
1	Apply brainstorming and ideation techniques to focus development efforts.				
2	Create a story for a storyboard.				
3	Describe the purpose of the 3d graphics and/or animation including the target audience.				
4	List the objects.				
5	Outline and link action sequences.				
6	Create scene-by-scene illustrations.				
G. PRODUCTION: UNDERSTANDING THE ANIMATION SOFTWARE		**0**	**1**	**2**	**3**
1	Use menu bars, command panels, and software navigation tools.				
2	Demonstrate the use of hotkeys (shortcut keys/commands).				
3	Demonstrate the ability to map between the various coordinate systems.				
4	Compare and contrast use of Orthographic/Perspective Views.				
5	Demonstrate the ability to select objects and sub objects.				
6	Use positional transformations, i.e. move, scale, and rotate.				
H. PRODUCTION: MODELING		**0**	**1**	**2**	**3**
1	Create standard, extended and architectural primitives.				
2	Modify object properties.				
3	Transform and clone objects.				
4	Create and use object arrays.				
5	Build compound objects.				
6	Construct spline objects.				
7	Employ techniques to extrude a 2D object into a 3D object.				
8	Apply modifiers that will rotate a spline to create a circular cross section.				

9	Employ various techniques to modify edges, faces and vertices.				
10	Convert objects to Editable Mesh, Poly, Patch and Nurbs.				
I. PRODUCTION: APPLYING MATERIALS AND MAPS		**0**	**1**	**2**	**3**
1	Specify the ambient and diffused color of an object.				
2	Specify the specular, reflective, and luminosity material properties of objects.				
3	Add filters to an object.				
4	Create various surface patterns such as smoke, tiles, and swirls.				
5	Compare and contrast techniques for simulating land and water.				
6	Create reflections and refractions on objects.				
7	Create maps that will wrap an image onto an object.				
8	Create maps that will modify the surface of an object.				
9	Apply environmental maps for modifying background images.				
10	Compare, contrast and use opacity versus transparency.				
J. PRODUCTION: PAINT EFFECTS		**0**	**1**	**2**	**3**
1	Describe user interface for paint effects.				
2	Create pressure curves.				
3	Create cycling animation.				
4	Create a custom brush.				
5	Use paint effects mesh.				
6	Modify object shading.				
7	Change mesh settings and mesh environments.				
8	Change texture settings.				
9	Create illuminating and shadowing paint effects.				
K. PRODUCTION: KEYFRAME ANIMATION		**0**	**1**	**2**	**3**
1	Define keyframe.				
2	Create a simple keyframe animation using position.				
3	Create a simple keyframe animation using rotation.				
4	Edit keyframe animations using graph editor.				
5	Describe how different tangent settings affect an animation.				
6	Edit keyframe animations using dope sheet.				

7	Create a keyframe animation using driven keys.				
8	Create a keyframe animation using a motion path.				
L. PRODUCTION: CHARACTER RIGGING		**0**	**1**	**2**	**3**
1	Define rigging tools.				
2	Define skinning tools.				
3	Create skeleton using joints.				
4	Define inverse kinematics (IK) and forward kinematics (FK).				
5	Describe parent/child hierarchy.				
6	Use Influence Objects.				
7	Impose limits and constraints on skeleton joints.				
M. PRODUCTION: CHARACTER ANIMATION		**0**	**1**	**2**	**3**
1	Create IK handles and mirroring joints.				
2	Create foot and knee controls.				
3	Create a foot roll from scratch.				
4	Create the back spine.				
5	Connect back spine to legs.				
6	Create back and hip controls.				
7	Add constraints to controls.				
8	Insert joints into a joint chain and head controls.				
9	Build arms and arm IK controls.				
10	Create fingers.				
11	Adjust local rotation of the finger joints.				
12	Use the paint weight tool to influence skin.				
N. POST PRODUCTION: RENDERING		**0**	**1**	**2**	**3**
1	Use animation position controllers.				
2	Set keyframes manually.				
3	Create various object paths.				
4	Ghost an object's trajectory.				
O. PRODUCTION: LIGHTING TECHNIQUES (OPTIONAL)		**0**	**1**	**2**	**3**

1	Compare and contrast natural light versus artificial light.				
2	Describe and use three-point lighting.				
3	Apply principles of basic color theory to lighting.				
4	Employ various lighting types.				
5	Identify key principles in effective lighting.				
P. PRODUCTION: CAMERA TECHNIQUES (OPTIONAL)		**0**	**1**	**2**	**3**
1	Compare and contrast the difference between a free and a target camera.				
2	Calculate and change camera's focal length.				
3	Describe the impact of depth of field on an object.				
4	Describe and apply the use of motion blur on an object.				
5	Apply techniques to create shadows.				
Q. PARTICLE SYSTEMS, EFFECTS, AND FIELDS (OPTIONAL)		**0**	**1**	**2**	**3**
1	Define effects, fields, and particles.				
2	Create a particle emitter.				
3	Apply a field to a particle system.				
4	Create particle collisions.				
5	Apply effects to an object.