

## 3D Design and Animation Competencies

1. BASIC COMPUTER LITERACY
  - a. Understands hardware nomenclature
  - b. Understands system software skills
  - c. Understands search and desktop icons
  - d. Understands menus and command
2. DESIGN ELEMENTS
  - a. Understands simple layouts
  - b. Understands design problem-solving activities
  - c. Understands the principles and elements of art
  - d. Understands the twelve principles of animation
3. MODELING
  - a. Understands introduction
  - b. Understands polygonal modeling
  - c. Understands splines and patches
  - d. Understands how to coordinate systems
  - e. Understands geometric primitives
  - f. Understands transformations
  - g. Understands common modeling techniques
  - h. Understands hierarchies
  - i. Understands boolean operations and trims
4. RENDERING
  - a. Understands the camera
  - b. Understands lights
  - c. Understands surface characteristics
  - d. Understands texture mapping
  - e. Understands atmosphere effects
5. ANIMATION
  - a. Understands keyframing simple transformations
  - b. Understands interpolations
  - c. Understands parameter-curve editing
  - d. Understands hierarchal animation
  - e. Understands inverse kinematics
  - f. Understands motion paths
  - g. Understands shape changes
  - h. Understands camera animation
  - i. Understands animation lights and surface properties
6. ADVANCED ANIMATION TECHNIQUES
  - a. Understands particle and particle-like systems
  - b. Understands procedural animation

7. COMPOSING AND SPECIAL EFFECTS

- a. Understands digital techniques
- b. Understands video editing

8. RECORDING

- a. Understands video
- b. Understands audio

9. ESSENTIAL EMPLOYABILITY SKILLS/CAREER PREPARATION STANDARDS

- a. Demonstrates personal skill development (positive attitude, honesty, self-confidence, time management)
- b. Demonstrates effective interpersonal skills (group dynamics, conflict resolution, negotiations)
- c. Demonstrates academic skills, critical thinking and problem-solving in the workplace
- d. Demonstrates effective communication
- e. Demonstrates occupational safety issues and observe all safety rules
- f. Demonstrates career awareness and knowledge of pathways
- g. Demonstrates ability to adapt to changing technology
- h. Demonstrates ability to prepare for employment (resume, job application, job interview, portfolio development)
- i. Received Autodesk 3DS Max Certification