Kentucky CTE

Computer Science: Advanced 3D Game Development

Compare and contrast modeling methodologies (for example, polygons, NURBS, splines) GD3.1	1 Compare and contrast modeling methodologies (for example, polygons, NURBS, splines) GD3.1
Explain the applications of low polygon and high polygon construction GD3.2	2 Explain the applications of low polygon and high polygon construction GD3.2
Construct and manipulate polygonal objects GD3.3	3 Construct and manipulate polygonal objects GD3.3
Applying texturing/surfacing/shading to models and normal mapping GD3.4	4 Applying texturing/surfacing/shading to models and normal mapping GD3.4
Identify UVW mapping coordinates GD3.5	5 Identify UVW mapping coordinates GD3.5
Explain how lighting and shading effect form and surface GD3.6	6 Explain how lighting and shading effect form and surface GD3.6
Implement basic lighting concepts for ambient and artificial light GD3.7	7 Implement basic lighting concepts for ambient and artificial light GD3.7
Describe the difference between forward and inverse kinematics GD3.8	8 Describe the difference between forward and inverse kinematics GD3.8

Examine the process of particle creation and its application to game design GD3.9	**9** **Examine the process of particle creation and its application to game design** GD3.9
Create a parent/child hierarchy GD3.10	**10** **Create a parent/child hierarchy** GD3.10
Create a joint/bone chain GD3.11	**11** **Create a joint/bone chain** GD3.11
Apply and adjust weight maps GD3.12	**12** **Apply and adjust weight maps** GD3.12
Create atmospheric effects GD3.13	**13** **Create atmospheric effects** GD3.13
Demonstrate the use of constraints to animate objects GD3.14	**14** **Demonstrate the use of constraints to animate objects** GD3.14
Apply various animation techniques (for example, pose-to-pose, straight ahead) GD3.15	**15** **Apply various animation techniques (for example, pose-to-pose, straight ahead)** GD3.15
Adjust the dynamic properties (for example, gravity, wind speed) GD3.16	**16** **Adjust the dynamic properties (for example, gravity, wind speed)** GD3.16
Simulate rigid body dynamics (shattering wall, breaking glass) GD3.17	**17** **Simulate rigid body dynamics (shattering wall, breaking glass)** GD3.17
Utilize cinematography in animation GD3.18	**18** **Utilize cinematography in animation** GD3.18
Describe the process of motion capture for animation GD3.19	**19** **Describe the process of motion capture for animation** GD3.19