EXERCISE 6: AEC OBJECTS

ASSIGNMENT:
In this exercise you will create a small pavilion using AEC extended objects, Doors, Windows and Stairs

LEARNING OBJECTIVES:
- Modeling with AEC Objects
- Using Door, Windows, Stairs and Rail Objects
- Introduction to AEC Material Templates
- Introduction to Cameras
- Introduction to the Environment Maps
- Quick Rendering
- Using VIZ as a design tool

PROCEDURE:
1. Open Autodesk VIZ 2006
2. From the main menu bar select Customize, Units Setup
3. Set the units to US Standard, feet w/ decimal inches.
4. Make the top viewport the active view.
5. Click the **Create Tab** on the Command Panel. Click the **Geometry** tool and select **AEC Extended**.

6. Select the **Wall** tool and then click the **Keyboard Entry** rollout.

7. Under the Parameters Rollout, set the **height** = 10’ and the **width** = 5”. Set the justification to center.

8. Using the **Keyboard Entry** rollout, enter the following coordinates:
   
   a.  \[ X = 0 \quad Y = 0 \quad Z = 0 \quad \text{Click Add Point} \]
   
   b.  \[ X = 20' \quad Y = 0 \quad Z = 0 \quad \text{Click Add Point} \]
   
   c.  \[ X = 20' \quad Y = 10' \quad Z = 0 \quad \text{Click Add Point} \]
   
   d.  \[ X = 15' \quad Y = 10' \quad Z = 0 \quad \text{Click Finish} \]

9. Your wall shape will look like figure 6.01. **Zoom Extents All** as necessary to see the entire object.
ADDING THE DOOR
10. Activate the perspective viewport.
11. Arc Rotate so that you have a view of the long wall segment which shows both
the front face and the top two edges of the wall. You may want to maximize the
perspective viewport to get a better view.
12. Activate the 3d Snap tool.

13. Right click the Snap tool to open the Grid and Snap Settings dialog box. Make sure that only
Edge/Segment is selected.

14. Click the Create Tab on the Command Panel. Click the Geometry tool and select Doors.
15. Select a Pivot door.
16. For best results, right click on the word perspective and change the viewport to
wireframe.
17. You will define the exact dimensions of the door after inserting it into the wall.
18. Click and drag along the top front edge of the wall and release the mouse button
to establish the door width. (any width will work for now)
19. Next click the top inside edge of the wall to establish the door depth.
20. Finally, move the cursor downward to define the height. This final click does not
require a snap. You may want to toggle the snap settings of by using the “S” key
on the keyboard.
21. The door should now be inserted into the wall.
22. Set the height = 7'-0” and the width = 3'-0". Give the door an opening of 45
degrees.
23. Change the perspective viewport back to Smooth + Highlights
24. Your door should look like figure 6.02.

ADDING A WINDOW
25. Add a window to the adjacent wall using the same method as described above
for the door.
26. Click the Create Tab on the Command Panel. Click the Geometry tool and
select Windows. You may use any type of window that you choose.
27. Your model should now look like figure 6.03.
28. Save your file as yourname-pavilion.max
DESIGN PROJECT
The next part of this assignment is a design project. You will need to apply the information covered in the class lecture to be able to complete this portion of the exercise. Create a pavilion that meets the following requirements. **BE CREATIVE** and design a pavilion with interesting spaces.

1. Using a spline or a box, create a roof canopy over the three walls. Your roof plane must be large enough to accommodate 3 people comfortably, and have a thickness of at least 12”.
2. Using a spline, box or plane, add a ground / floor to your scene.
3. Using the AEC stair objects, add a stair to access the roof plane. You may choose any stair object you like. Treads must be a minimum of 11”, risers must be a maximum of 7”, the stair must be a minimum of 44” wide.

   *Hint:* Set and pin the overall height to the height of your roof plane, and modify the riser count until the riser height is less than 7”. Modify the stair length as necessary to accommodate the minimum tread dimension. Use the distance tool to measure the tread dimensions.

4. Using the railing path as a guide, add an AEC railing object to the stair. Design the rails, posts and fencing as you desire.
5. You may add other wall, roof, door or window objects as necessary for your design—remember to be creative!
6. Add materials to the scene. You must use the AEC material templates for AEC objects. You may use other materials as necessary for other objects.
7. Add an environment image to the scene
8. Add two target cameras to the scene. One camera should show an overall view. The other camera should show an interior view of one of the spaces.
10. Your final rendering may look similar to figure 6.04.