

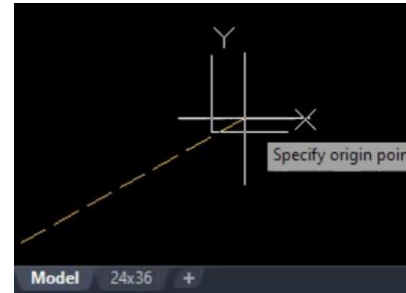
Control the user coordinate system (UCS)

You will set the UCS at a 0,0 origin and then move the origin. You will rotate the UCS to align with elements that are at 90 degrees. Then you will create and name a UCS to be used in your drawing.

- Drawing with accuracy

Learning Objectives:

- Understand the User Coordinate System.
- Move the UCS origin.
- Rotate the UCS.
- Use named UCS definitions and preset orientations.



The completed exercise

1. Open the *Finished-Grading-Sheet.dwg* file.

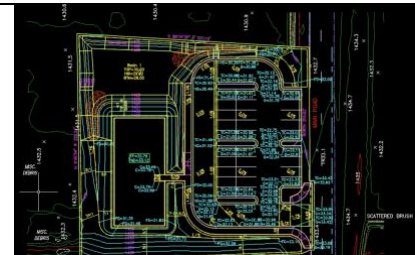


Figure 1. Opening the drawing file in AutoCAD

2. Type **UCSICON** and press Enter to see various options available for the UCS. Choose Origin from the context menu.



Figure 2. The UCSICON menu

3. Type **L** to start a line and enter **0,0**. Press Enter. Note that the UCS icon is at the 0,0 point.

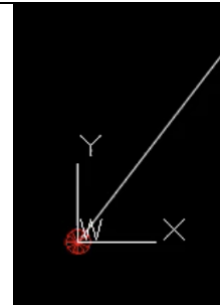


Figure 3. Noting that the UCS icon is set to 0,0 (origin)

4. To move the UCS from the 0,0 point, click the UCS icon in the lower-right corner. Hover over it to see menu options.



Figure 4. Clicking on the UCS icon for the UCS menu

5. Click the grip in the corner of the UCS and drag it to a point on the drawing. You can use Object Snaps to snap the UCS directly to a point.

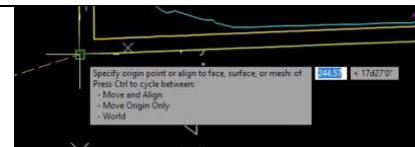


Figure 5. Using the UCS grip to drag the UCS icon to a new position

6. Type **ID** and identify the endpoint by using an Endpoint object snap

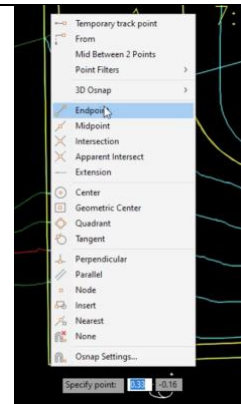


Figure 6. Using ID to identify the endpoint

7. Note that the point that was selected for the moved UCS is now at 0,0. Undo the command by selecting **Acucseditaction** in the Quick Access toolbar.

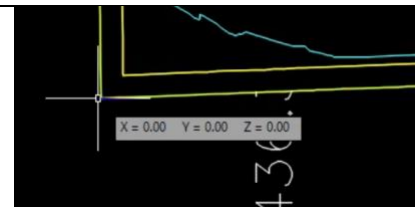


Figure 7. Undoing the UCS position change

8. To rotate the UCS, type **UCS** and then click Object in the command line.



Figure 8. Rotating the UCS icon

9. Select an object to align the UCS and select Endpoint from the menu. Click the end of a line and select Line in the Selection dialog.

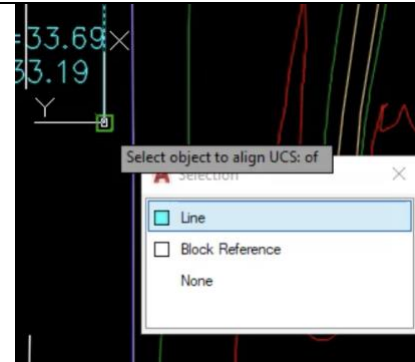


Figure 9. Aligning the UCS

10. The UCS has rotated to align with that object.

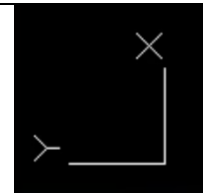


Figure 10. The new UCS alignment

11. Type **PLAN** and then select Current UCS in the menu. The drawing rotates to match the layout of the object that was chosen.

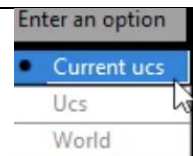


Figure 11. Rotating the drawing to the new UCS alignment

12. To return the UCS to the world coordinate system, type UCS and select World in the command line. Type PLAN and press Enter twice. The view is restored to World and rotated to the original UCS.

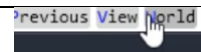


Figure 12. Setting the UCS back to World settings

13. Another way to return to a World view is to select WCS in the drop-down menu on the ViewCube.



Figure 13. Selecting WCS on the ViewCube

14. Type **UCSMAN** to open the UCS Manager. In the Named UCSs tab, select World and click Set Current to return to World View. Click OK. You can also set Orthographic UCS Views in the UCS Manager.

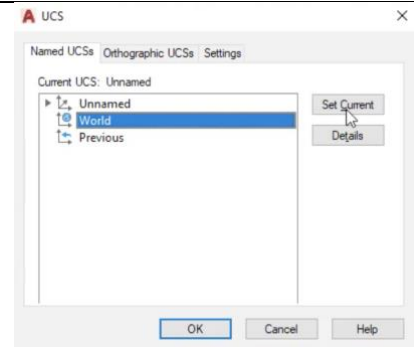


Figure 14. Using the UCS Manager

15. Type **UCS** and select Object in the command line. Click a line in the drawing. Type **UCS** again and click Named. Click Save. Type Aligned in the command line.

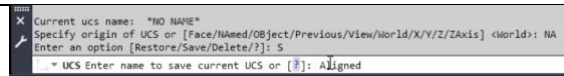


Figure 15. Naming a UCS alignment and location

16. The previously Unnamed option on the ViewCube drop-down list now displays as Aligned.



Figure 16. Noting that the UCS is now aligned

17. Type **UCS** and select World in the command line or return to the WCS view via the ViewCube drop-down menu.



Figure 17. Returning the UCS to WCS settings