



AutoCAD Plant 3D Process Plant Layout and Piping Design

Software Instructions

Software used	AutoCAD Plant 3D		
Version #	3.5		
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Instructions for using AutoCAD Plant 3D

Preliminary Instructions to Setup the Exercise

1. Obtain the necessary files

- If you are using AutoCAD from your PC, download the folder below from Moodle (The name may be different depending on your course, but the template files are the same)
 - Practical_AutoCADfiles_Distillation Column
 - DME_M10_AutoCADfiles_Distillation Column
- If you are using AutoCAD from the remote labs, you will find that folder in the folder called AutoCAD which is located on the desktop.

2. Obtaining the software

You can download AutoCAD Plant 3D →

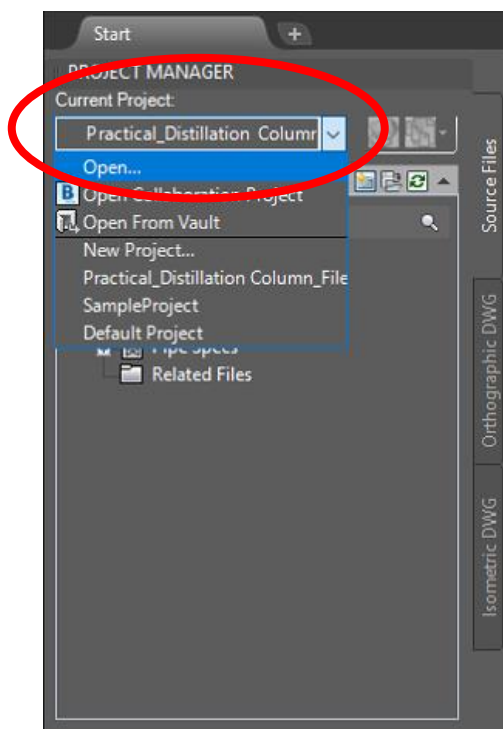
- Free Student software (large file – 3GB+):
 - <https://www.autodesk.com/education/free-software/featured>
- The trial version:
 - <https://www.autodesk.com.au/free-trials>

Alternatively,

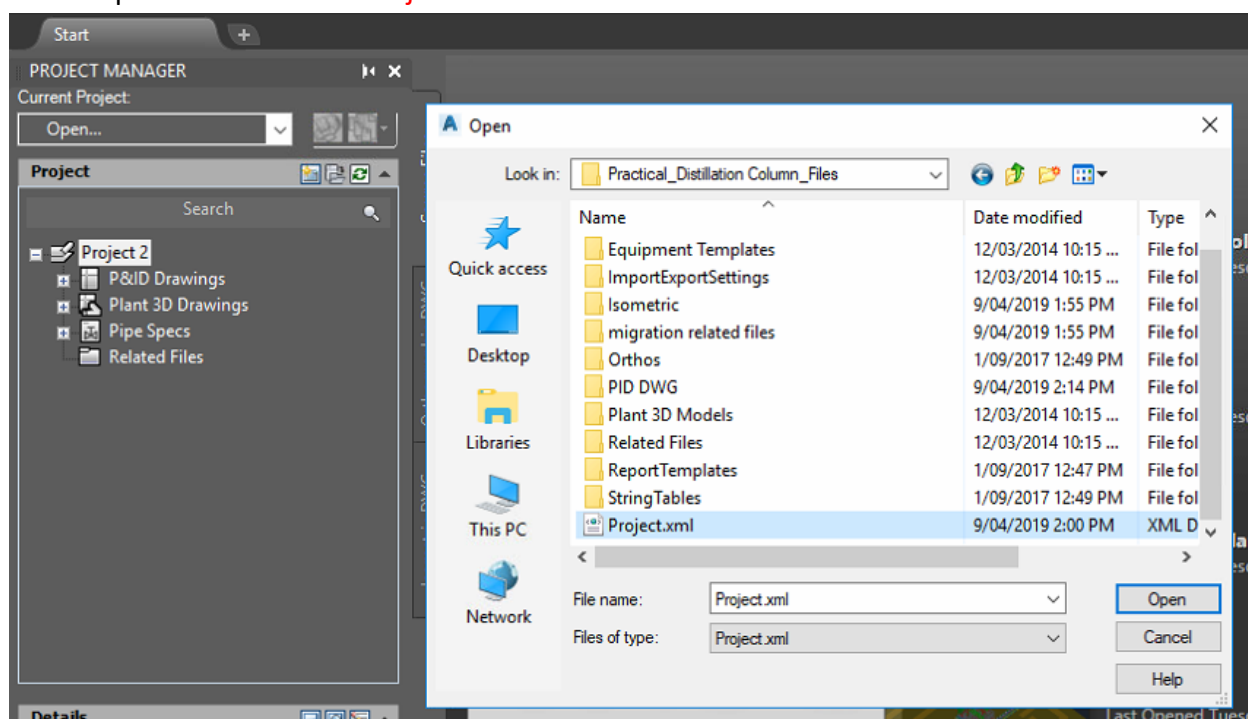
- Log in to the EIT Remote labs and use the search function to search for AutoCAD Plant 3D
Open AutoCAD Plant 3D
 - The icon is located on the desktop

2. Upload the project file into AutoCAD Plant 3D.

- Once AutoCAD is open, take a look to the left hand side of the window.
- Under Current project in the Project Manager Tab, expand the drop down menu.
- Click on Practical_Distillation Column_Files and go to step 3.
- If you can't find **Practical_Distillation Column_Files**, click **Open**

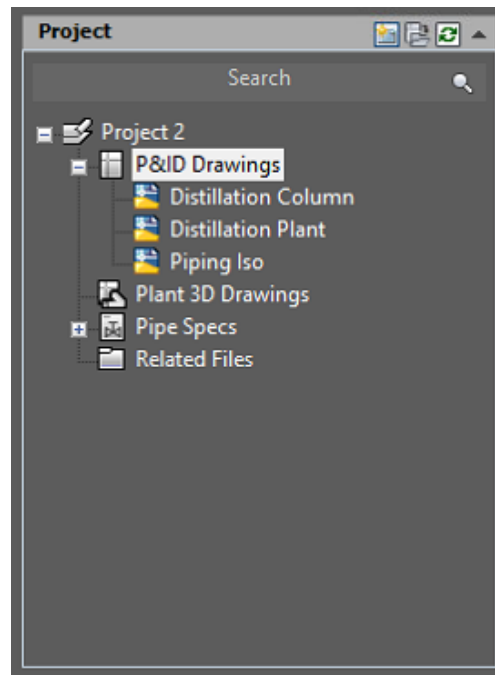


- Search and open the folder **Practical_Distillation Column_Files**, located on the desktop.
- Open the document **Project.xml**



3. Obtaining the drawing templates

- In Project Manager under the Project Tab expand **P&ID Drawings**

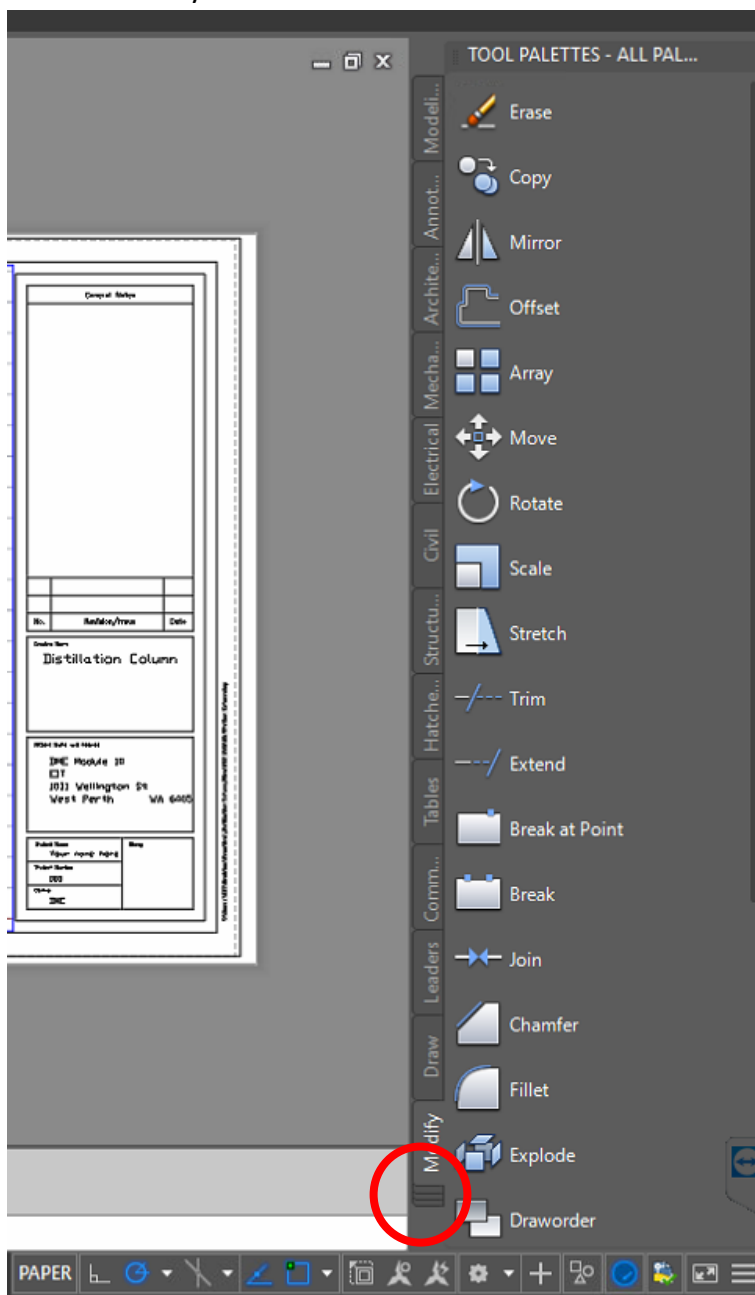


- Three drawings will appear.
- As per the exercise, simply click on the drawing you wish to open:
 1. Distillation Plant
 2. Distillation Column
 3. Piping Iso

How to use Autodesk Autocad P&ID

How to setup the correct Tool Palettes

- Before you start drawing, make sure you have the correct Tool Palettes.
- Right click on **Tool Palettes** on the right hand side and select **All Palettes**. All the available pallets will be available to you.

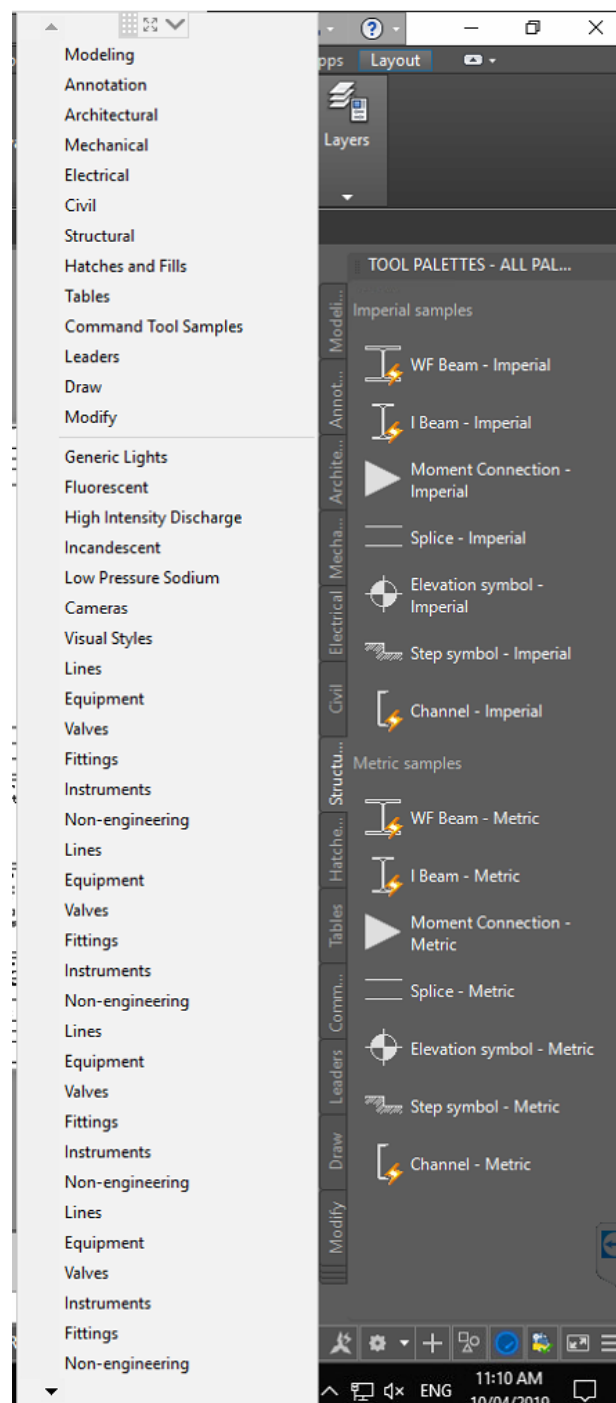


- To navigate through the different palettes, click on the relevant **palette's tab** or at the bottom of the tabs where indicated to navigate through the list and select the appropriate palette.

Some of the useful palettes to the exercise are the following:

- **Draw**

- Equipment
- Hatches and Fills
- Lines
- Instruments
- Non engineering
- Valves
- Fittings



How to draw a line or other basic shape?

- Open the Draw palette
- Select line (or other shape if desire), click where you want to place your line and click again to place the end point. Press enter to confirm.

How to place equipment?

- Make sure you have the correct *Tool Palettes (equipment or other)*
- Select the desired equipment.
- To place it on your drawing, simply click at the desired position. You can adjust the size of the equipment by moving your mouse. Click and press enter to confirm.
- You can also adjust the scale by selecting the equipment, then right click and select *Scale*. Select a point and enter the scaling factor.
- To rotate or move the equipment, proceed in a similar way.

How to shade?

- Make sure you have the Hatches and Fills Tool Palettes.
- Make sure that the boundary of the shading area is drawn first.
- Select the boundary then select the appropriate hatch or fill option.

How to add annotations?

- On the top tool bar, select the letter A.
- Choose whether you want a text box or a leader.
- Click to place it on your drawing and enter the annotation

How to draw a pipe segment?

- Select the Line palette and choose you line.
- Simply click where you want to connect the pipe. A nozzle will appear automatically.
- Drag you're the mouse to draw a straight section.
- To change direction, click where you want a change in direction drag your mouse until you reach the other equipment and click and press enter to confirm the path.
- If you want to stop a line without connecting it to equipment, click where you want to stop your line and press enter.
- To reverse the flow direction of a pipe, right click on the line, under **Schematic Line Edit** select **Reverse Flow**.

How to add a valve?

- In your *Tool Palettes* under the *Valve* tab on the right hand side, select the appropriate valve.
- To place the valve on your drawing, simply click at the desired position.
- To assign a tag number, right click on the valve and select *Assign Tag...* Insert the tag number and make sure that *Place annotation after assigning tag* is selected. Click *Assign* to confirm.

How to insert instruments?

- In your *Tool Palettes* under the *Instruments* tab on the right hand side, select the appropriate instrument under the *General instrument* section.
- Click to place the instrument.
- A window appears. Fill in the tagging information and under *type* select the instrument type. Make sure that *Place annotation after assigning tag* is selected. Click *Assign* to confirm and chose the position of the tag.

How to insert an Off Page Connector?

- In your *Tool Palettes* under the *Non-engineering* tab on the right hand side, select the appropriate *Off Page Connector* under the *Off Page Connector and Tie-In Symbol* section.
- Place the *Off Page Connector* like you did for the other drawing parts