

## How to Create A Basic Custom Truss in Revit

1. After opening Revit (either Architecture or Structural), start a **new family** not project. This can be found on the home screen (Figure 1). However, most of the time, a truss is custom to a geometry in an project and needs to be tailored to a specific shape.
2. Therefore, if already in a project, click on the Revit icon in the upper left hand corner of the screen and select **New** → **Revit Family** → **Generic Model – Line Based** → **Open**.

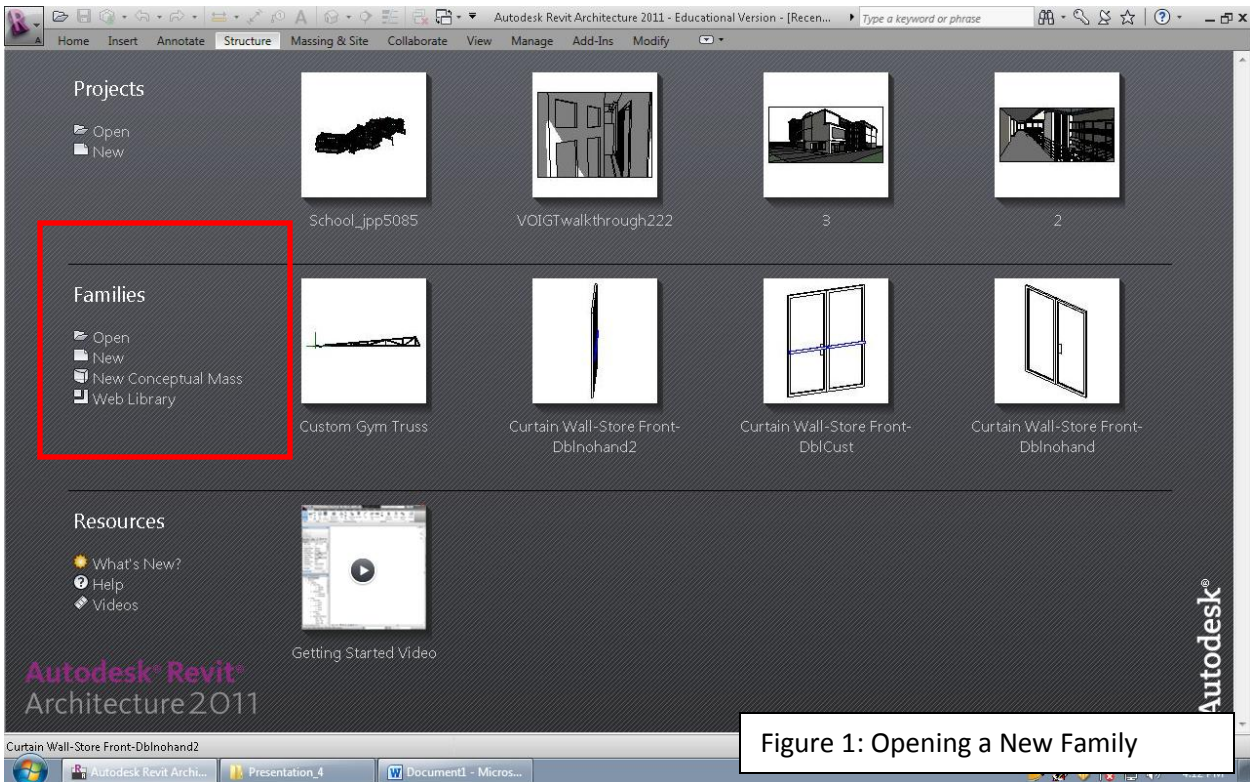
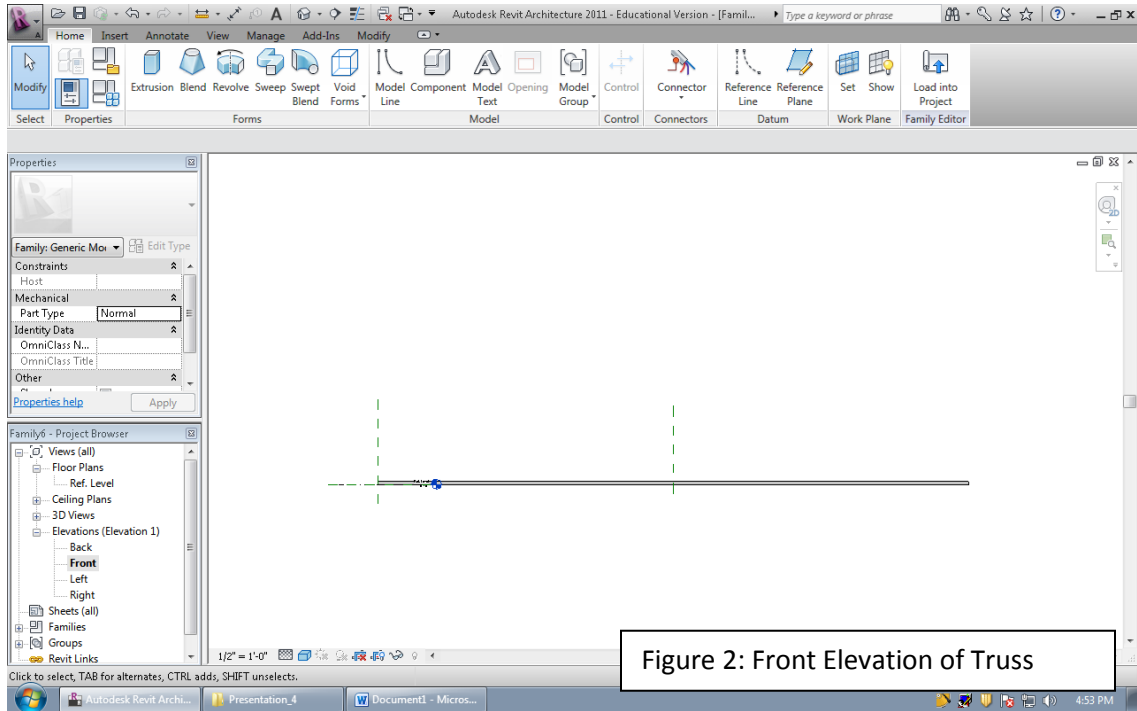
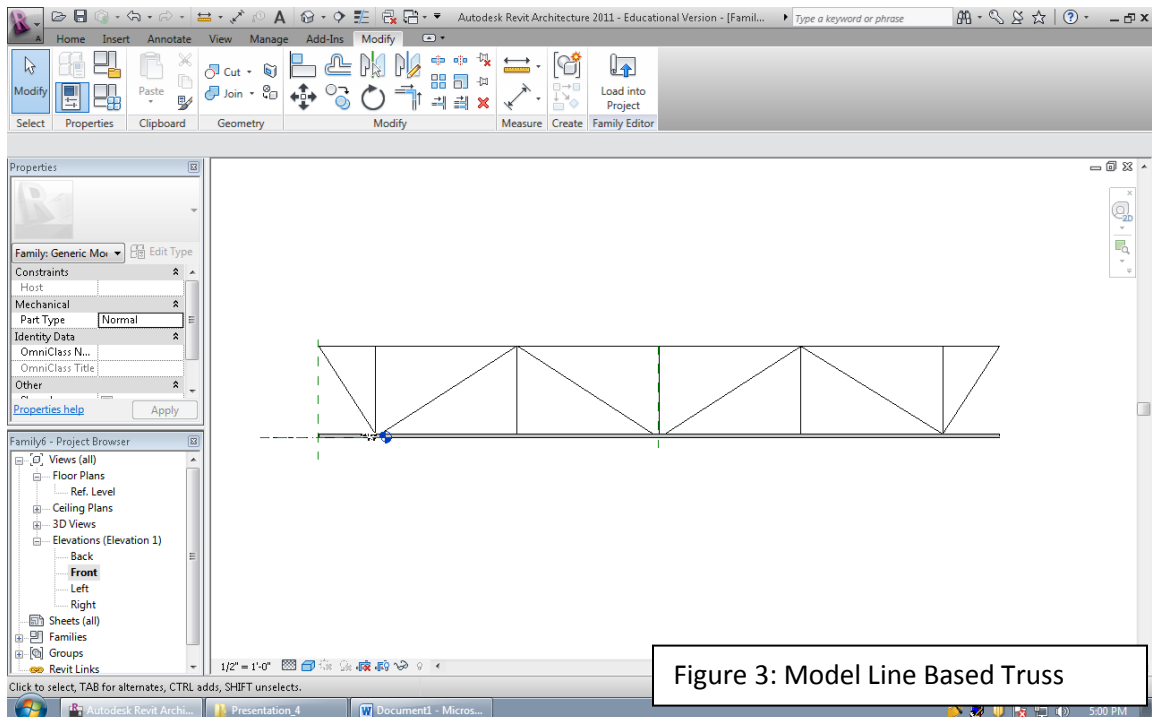


Figure 1: Opening a New Family

3. Once this screen loads, a blank template comes up with a default line of 4'-0" long. Using this family type, the user is starting with a blank template to create whatever they want. To start the truss, draw the bottom chord first. To select the structural member desired, go to the **Home tab** → **Model Palette** → **Component**. This will open up the typical component window. Go to **Structural** → **Framing** → **Steel** → **LL Double Angle.rvt** → **Select desired size**.
4. After loading structural angles into Revit, draw the bottom chord to its custom length. Note: The default position of structural angles is flat side up. Therefore, since the bottom chord of double-angled joists is flat side down an adjustment must be made. Go to **3D view**, click on the member and under the properties toolbar, **change Cross-Section orientation from 0 to 180 degrees**. This should flip the orientation of the angles to flat side down.
5. To add create the desired geometry to the truss go to the **Front Elevation** to do the remainder of the modeling. Figure 2 shows what your screen should look like.
  - a. Note: Add references lines by going to the **Home Tab** → **Reference Lines**.

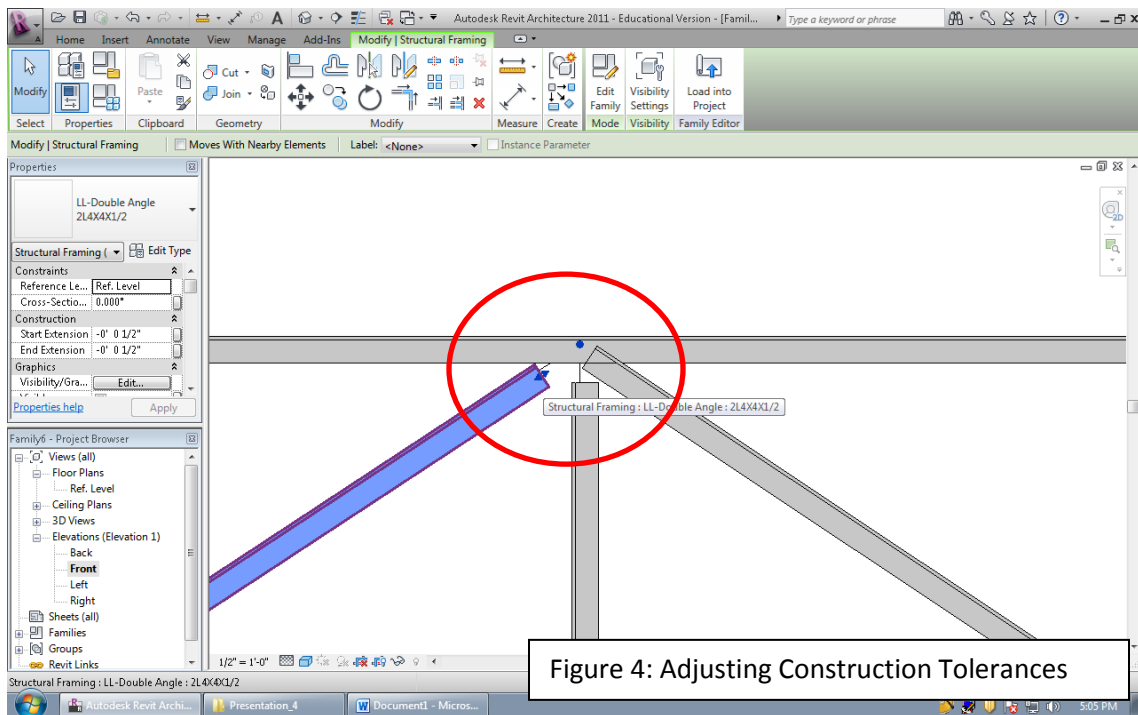


- After adding desired reference lines, use **model lines** to draw in the desired geometry of the truss. Model lines are found under the **Home tab**.



- After finalizing the geometry of the truss, **trace the model lines** using structural members. This is accomplished by going to **Home Tab** → **Component**. Note: When modeling the structural members, Revit automatically will adjust members to tolerances which will not show the member connecting to the truss.

8. Due to the construction tolerances built into Revit, adjustments are needed to make the structural members connect to one another. To adjust the members, either **change tolerances in the properties toolbar** or **by dragging arrows on the end of a selected member** (see figure 4).



9. Add a joist seat to the completed truss and delete all model lines before **loading the completed truss into the Revit project**. See figure 5 for the completed custom truss ready to load back into the project. To load the truss into the project, **Modify tab** → **Load into Project**.

Note: Joist seat will require rotating the structural member, see step 4 for instructions.  
**Note: Completed truss is for visual design authoring ONLY. This truss will not perform under and structural analysis is Revit Structure.**

