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Crescent Valiani CorelDraw to V-Studio Users's Guide

CLASS DESCRIPTION

This course is intended for intermediate to advanced Valiani CMC users and participants are encouraged to have previously taken a beginners course or have prior experience working with a Valiani. The objective of this course is to demonstrate the more advanced use of the V-Studio Software in conjunction with CorelDraw to create and import and cut truly unique custom designs. A Valiani Mat Pro Ultra CMC 150 will be on hand to demonstrate its versatility and illustrate firsthand how to properly maintain and calibrate the equipment. Please feel free to bring your laptops and a flash drive however there will not be any power outlets available, so make sure your battery is fully charged...

Objectives

Learn what common tools, practices and file types work best while creating designs in CorelDraw. Demonstrate how to design unique shapes and objects in CorelDraw and import them into Valiani's V-Studio Software. Review the Advanced tools and design capabilities within V-Studio's Create Software, which provides more design control than ever before. Designs that were once impossible for most are now a reality for all.

1. **Review Typical Drawing Tools Used**
2. **Review Typical Editing Tools Used**
3. **Getting Started with CorelDraw Basics**
4. **Importing Unique Designs**
   a. **Applying CorelDraw Basics**
   b. **Saving and Exporting Design**
5. **Advanced V-Studio's Create Tools**
6. **Calibrate and Maintaining your Valiani**

1. Review Typical Drawing Tools Used

Freehand
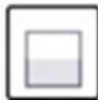The Freehand tool lets you draw single line segments and curves.

2-Point Line
The 2-Point Line lets you draw straight two-point line segments.

3-Point Curve
The 3-Point Curve tool lets you draw a curve by defining the start, end and center point.

Rectangle
The Rectangle tool lets you draw rectangles and squares.

Ellipse
The Ellipse tool lets you draw ellipses and circles.

2. Review Typical Editing Tools Used

Pick Tool
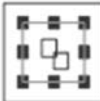The Pick tool lets you select, size, skew, and rotate objects.

Shape Tool
The Shape Tool lets you edit the shape of the object.

Contour
An effect created by adding an evenly spaced concentric shape inside or outside the border of an object.

Group
A set of objects that behaves as one unit.

Ungroup
Ungroup – breaks a group into individual objects, or a nested group into multiple groups

Ungroup All
Ungroup All – breaks one or more groups into individual objects, including objects within nested groups

Convert to Curves
A Curve Object has nodes and control handles, which you can use to change the object's shape. A Curve Object can be any shape, including a straight or curved line

Reduce Nodes
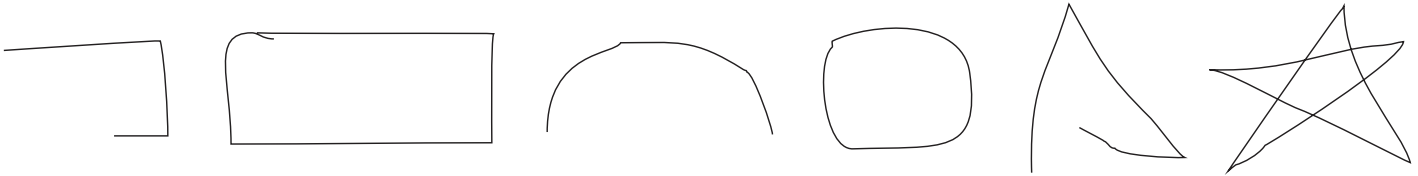Click Reduce nodes on the property bar to have overlapping and redundant nodes automatically removed

Freehand
The Freehand tool lets you draw single line segments and curves.

Practice using the "Freehand" tool to draw arbitrary objects as shown below. Keep in mind there is no right way or wrong way to use this tool, CorelDraw has many editing tools.
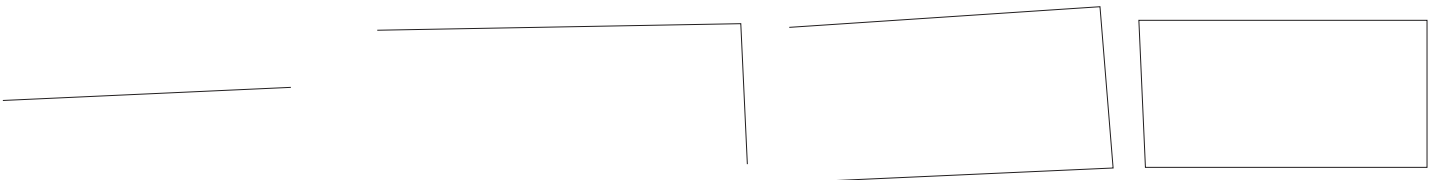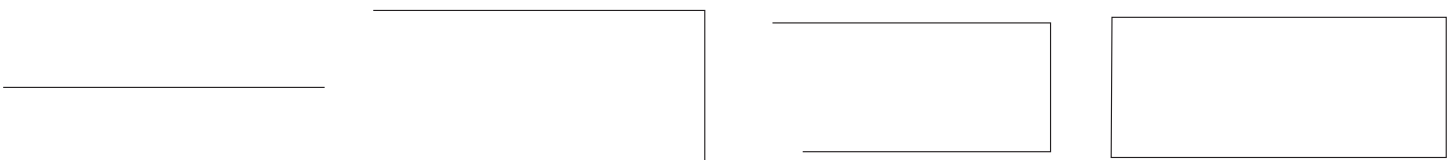
2-Point Line
The 2-Point Line lets you draw straight two-point line segments.

Practice using the 2-Point Line tool to draw arbitrary objects as shown below. Keep in mind there is no right way or wrong way to use this tool, CorelDraw has many editing tools.

Hint 1: when connecting line-to-line ensure that the first line remains selected and you do not click off the end point. Hover the mouse over the end point of the previous line and click then drag for the next segment that is to be drawn. Ensure that the node is visible and an angular arrow appears below the mouse pointer. If the arrow does not appear the points will not close. Select the object first then choose the 2-Point Line.

Hint 2: when straight horizontal or vertical lines are required hold the Ctrl key down when drawing the line. This technique will keep the line horizontal or vertical.
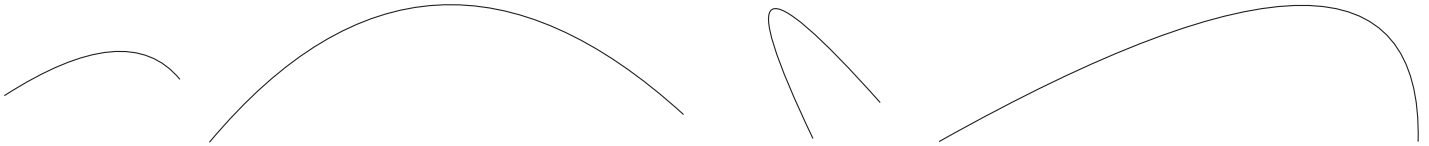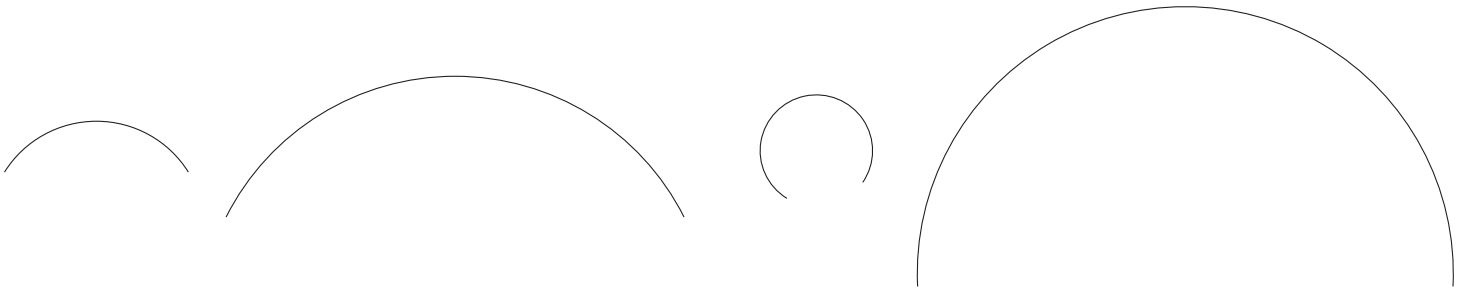
3-Point Curve

The 3-Point Curve tool lets you draw a curve by defining the start, end and center point.

Hint 1: when connecting line-to-line ensure that the first line remains selected and you do not click off the end point. Hover the mouse over the end point of the previous line and click then drag for the next segment that is to be drawn. Ensure that the node is visible and an angular arrow appears below the mouse pointer. If the arrow does not appear the points will not close. Select the object first then choose the 2-Point Line.

Hint 2: when needing to draw symmetrical arcs, hold the Ctrl key down when drawing the arc.
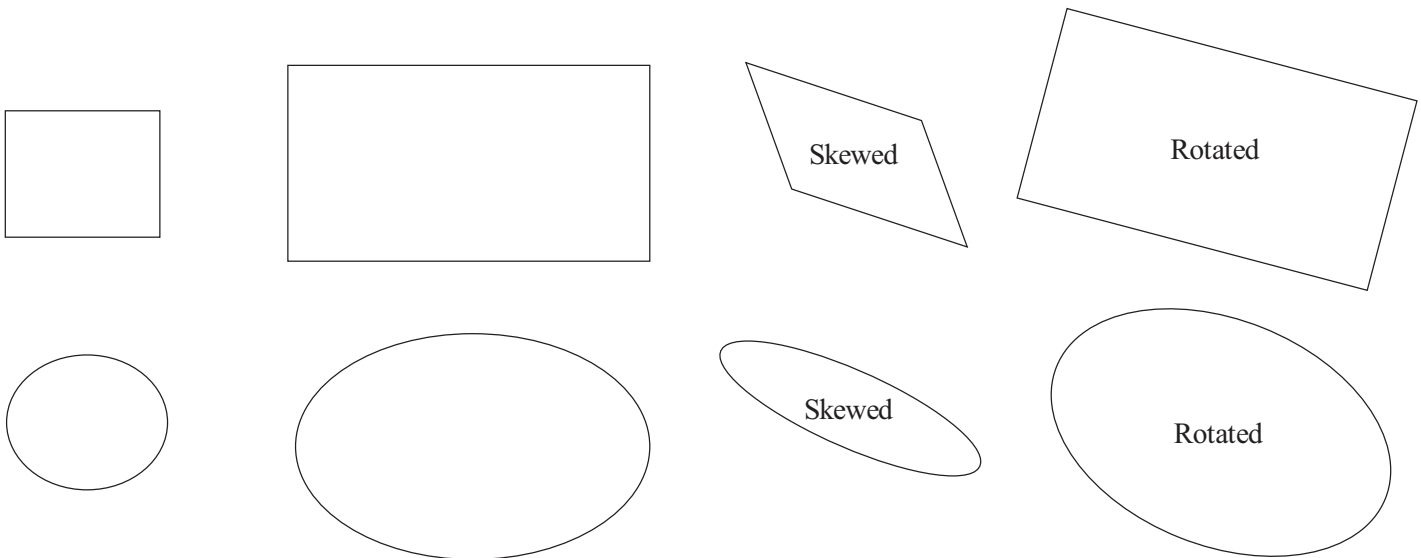
Rectangle
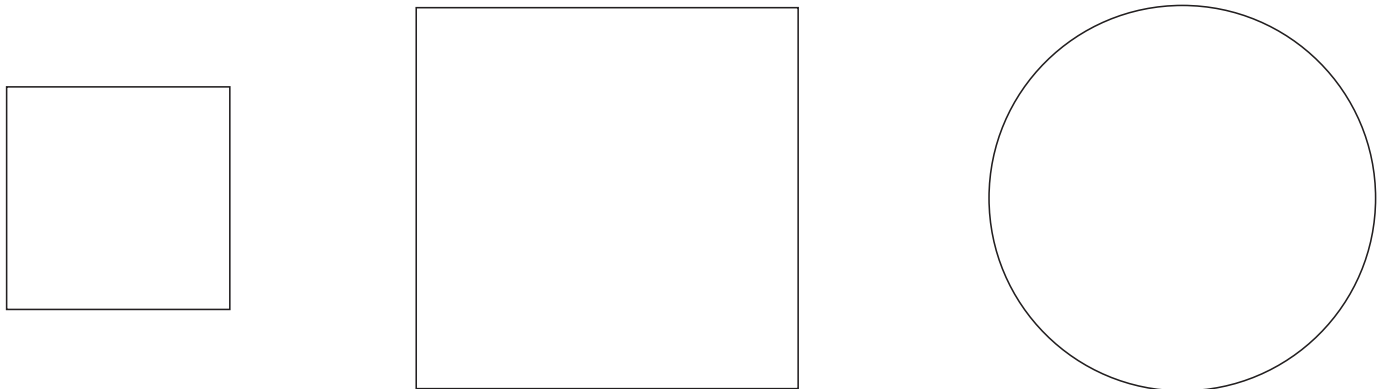The Rectangle tool lets you draw rectangles and squares.

Ellipse
The Ellipse tool lets you draw ellipses and circles.

Hint 1: clicking twice on the object will allow additional control handles to appear and allow for rotating or skewing the object.

Skewed

Rotated

Skewed

Rotated

Hint 2: when needing to draw symmetrical objects, hold the Ctrl key down when drawing Square and Circles.

Pick Tool
The Pick tool lets you select, size, skew, and rotate objects.
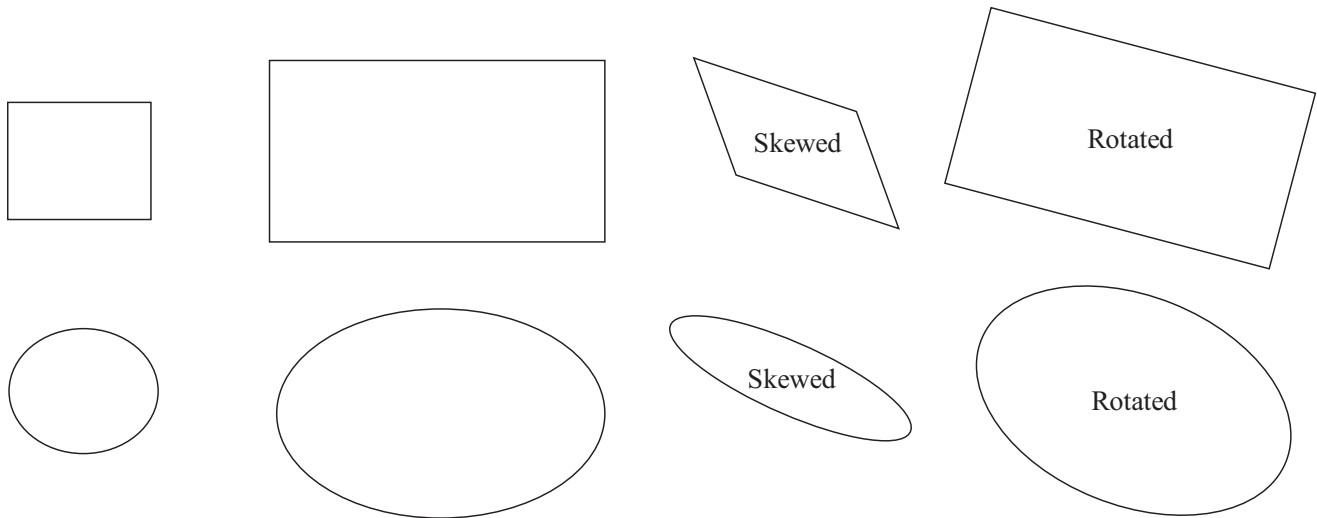
Shape Tool
The Shape Tool lets you edit the shape of the object.

To edit objects of any kind it must first be selected.   Click the Pick Tool icon with the mouse and then click on an object(s) to select. Once the object(s) is selected it will appear with square black boxes in the corners and mid-sections along with an "x" in the middle. The object can then be sized, skewed, and rotated etc.

Hint 1: as it is with illustration programs to make multiple selections hold the Shift key down and click the mouse onto another object to include it in the selection.

Skewed

Rotated

Skewed

Rotated

Hint 2: click the Shape Tool to adjust rectangles with rounded corners or to cut out a quadrant from an ellipse by clicking the enlarged control point and moving it with the mouse.
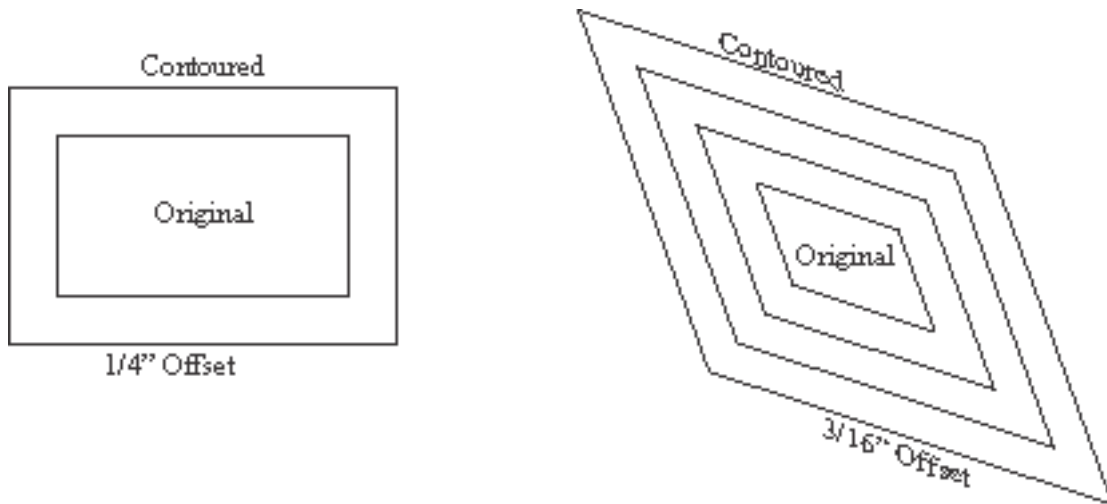
Contour
An effect created by adding an evenly spaced concentric shape inside or outside the border of an object.

Hint 1: The Contour options above will in effect create a duplicate path based on a specified distance I.E. 1/4"-3/16" etc. Inside or Outside the original shape.
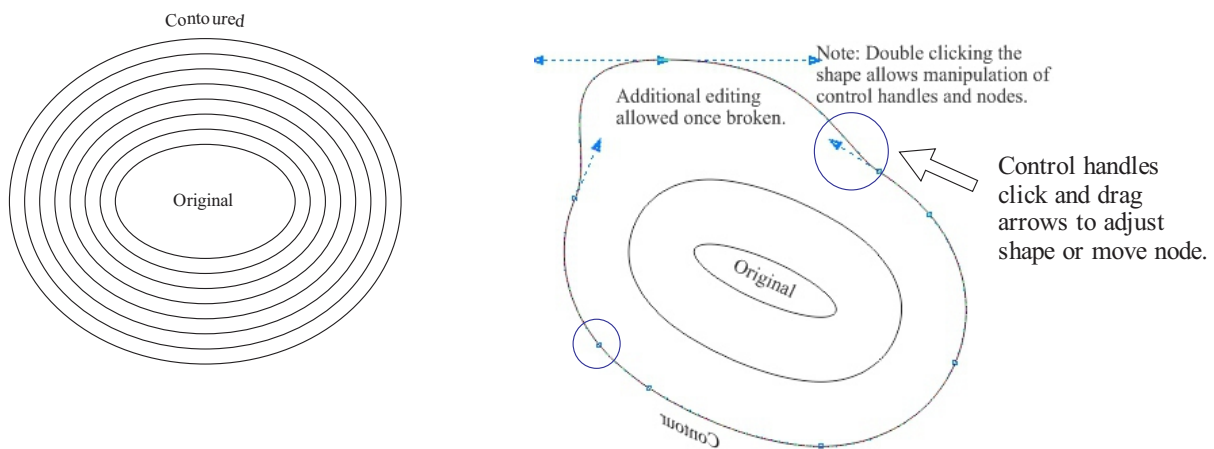
Hint 2: after creating a Contour and while the objects are still selected, choose menu option Object, and then select Break Contour Group Apart. This breaks apart Contoured group and objects become independent.
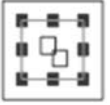
Hint 3: if an object or group of objects have been Contoured additional nodes might be added. If desired the Reduce Nodes option can be used. These should be reduced down to as few nodes as possible while maintaining the desired shape and its integrity.

Hint 4: Ungroup and Ungroup All will not break apart Contour.

Contoured

Original

1/4" Offset

Contoured

Original

3/16" Offset

Hint 5: after an object has been contoured, should the design require additional editing the object may need to be broken apart. Select the object and click on the menu option Object, then select Break Apart. This will separate objects to allow for additional editing.

Contoured

Original

Additional editing allowed once broken.

Note: Double clicking the shape allows manipulation of control handles and nodes.

Control handles click and drag arrows to adjust shape or move node.

Original

Contour

Group
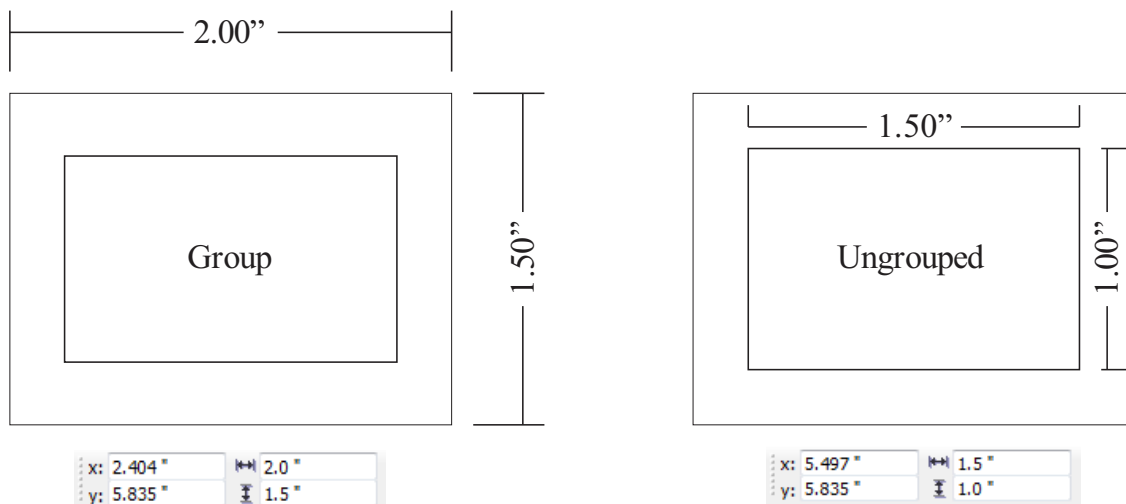A set of objects that behaves as one unit.

Ungroup
Ungroup – breaks a group into individual objects, or a nested group into multiple groups

Ungroup All
Ungroup All – breaks one or more groups into individual objects, including objects within nested groups

Hint 1: when two or more objects are grouped together these objects will react as though they are one. The overall size, position, spacing etc. will display the properties of both objects.
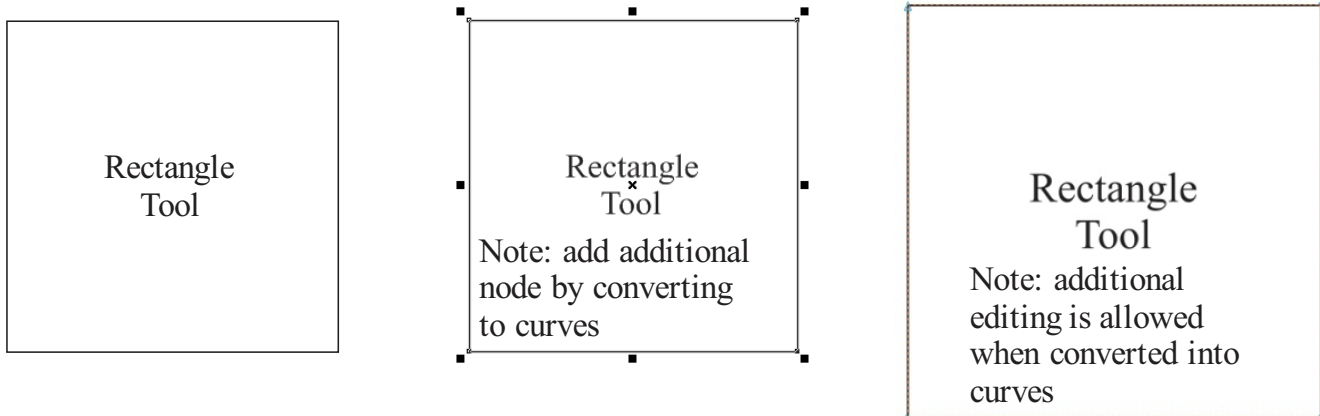
x:	2.404 "	↔	2.0 "
y:	5.835 "	↕	1.5 "

x:	5.497 "	↔	1.5 "
y:	5.835 "	↕	1.0 "

Hint 2: when multiple objects are grouped the properties will display the overall outer dimension along with the center position of the group.
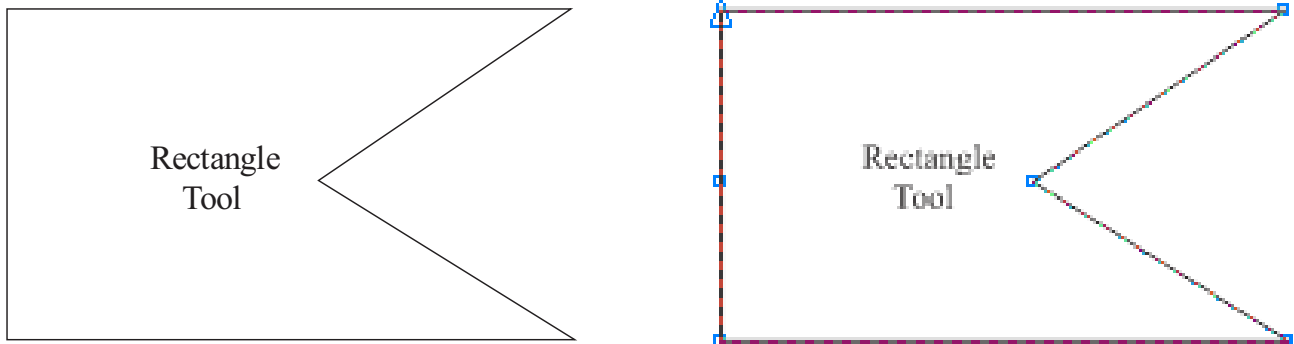
Convert to Curves

A Curve Object has nodes and control handles, which you can use to change the object's shape. A Curve Object can be any shape, including a straight or curved line.

Hint 1: select object using the pick tool, then click Object at the top of the menu and select convert to curves. This will allow further editing to an object such as a rectangle or ellipse.

Rectangle Tool

Rectangle Tool
Note: add additional node by converting to curves

Rectangle Tool
Note: additional editing is allowed when converted into curves

Hint 2: once the object has been converted to curves, by double clicking on segment additional control handles or nodes will be added. Furthermore, the control handles or nodes can be moved or modified to reshape the object.
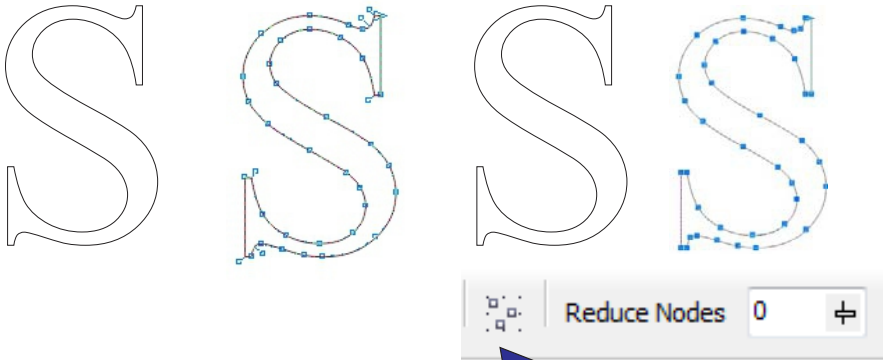
Rectangle Tool

Rectangle Tool

Reduce Nodes
Click Reduce nodes on the property bar to have overlapping and redundant nodes automatically removed
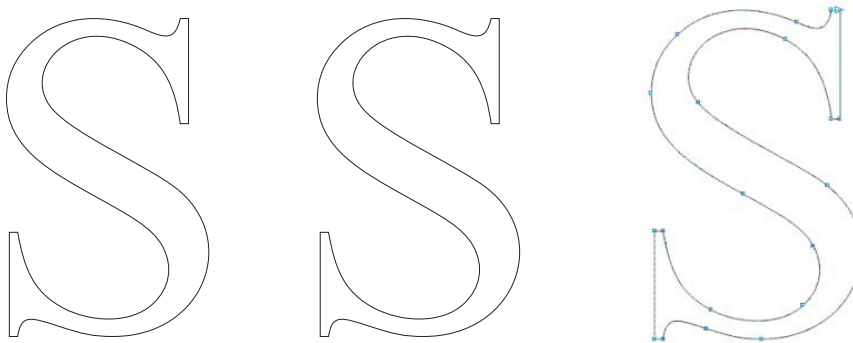
Hint 1: *if an object or groups of objects are converted to curves, in most cases, there will be more control handles or nodes then necessary. These should be reduced down to as few as possible while maintaining the desired shape and its integrity.*

Before

Once the object is selected click the Reduce Nodes icon at the top of the menu, then click the words "Reduce Nodes" to reduce. Continue until no additional nodes can be reduced.

Hint 2: *the cutting motion of the machine will run smoother with fewer nodes. If there are too many nodes present in the object, the machine may cut in a rough motion.*

After

4. Importing Unique Designs

There are several approaches in creating a design within CorelDraw. However, this guide will follow the steps using the previously discussed tools and practices.

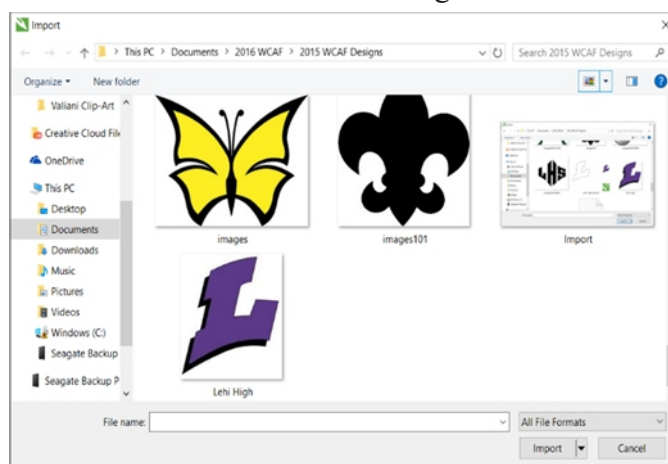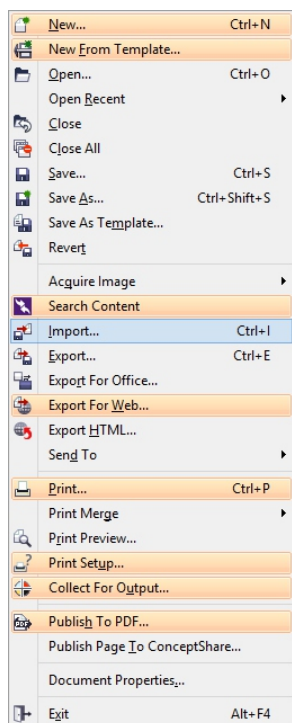Example, if customer requests a custom shape that is not included with V-Studio.

Question: How to begin? Best practice is to acquire an image of the custom shape. This can be accomplished from several approaches.

1. Search the Internet, save and import the design into CorelDraw.
2. Scan the object, save and import the design into CorelDraw.
3. Photograph the object, save and import the design into CorelDraw
   a. If the object is too large to scan i.e. Team Jersey or anything with a large format.
      i. Ensure the photographed image is square or when outlining the drawing it could end up out of skew.

Select an image i.e. .jpg, .png, .tiff, or .gif to import into CorelDraw. Keep in mind that images taken from the Internet are typically low quality, so some details may need to be manually adjusted.

Click File | Import

Select an image

Now begin manually tracing the image based off of the previously discussed tools.

It does not really matter where the drawing starts, however, when possible best practice is to start at a corner. Select the 3-Point Arc and click near the image to begin your first path. Click the desired start point, while holding the left mouse button, click the end point and adjust the midpoint as desired.

Hint 1: sometimes it may be best to view the image in Wireframe mode to help remove colors. Click on View at the top menu and select Wireframe.

Select the 2-Point Line hover the mouse at the arc end point to begin placing straight lines. Note: Hover the mouse over the end point of the previous line and click then drag for the next segment that is to be drawn.

Hint 2: Ensure that the node is visible and an angular arrow appears below the mouse pointer. If the arrow does not appear the points will not close. Select the object first then Continue following the path as desired.

Hint 3: use the zoom tool to give a close-up view of your path.

Hint 4: click on the ruler and drag onto the page to insert guidelines.

Toggle between the 3-Point Arc and 2-Point Line as needed. Hover the mouse over the end point of the line and continue tracing the outline of the image. Note: although it is not required, it is a good habit to trace the object in a clockwise direction.

Hint 1: ensure that the node is visible and an angular arrow appears below the mouse pointer. If the arrow does not appear the points will not close. Select the object first then Continue following the path as desired.
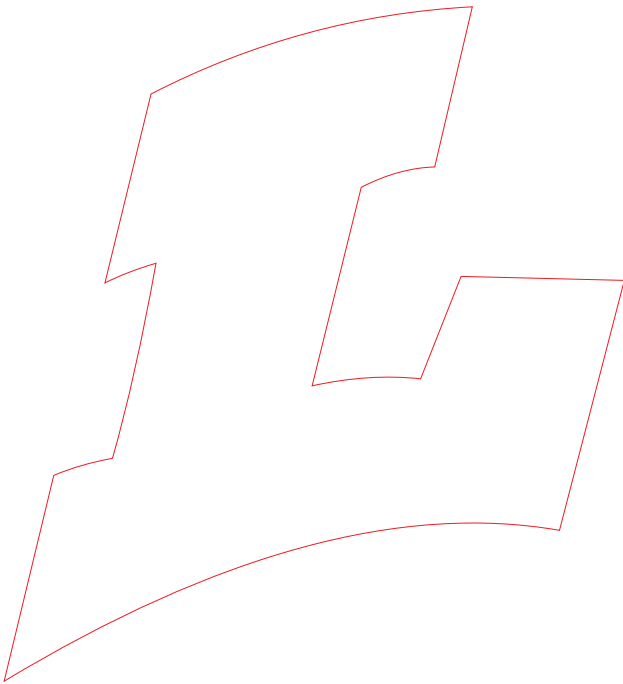
Hint 2: use the zoom tool to give a close-up view of your path. Scroll using the mouse wheel, the zoom will focus where the mouse pointer is placed.

Hint 3: click on the ruler and drag onto the page to insert guidelines. Double click onto the guideline and click the delete key on the keyboard to remove the guideline.

Once the image has been completely outlined delete the imported image as it is no longer required. Select and delete the imported image to further edit the design if needed.
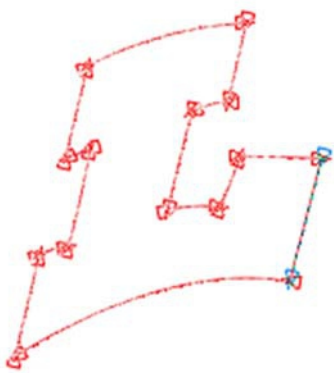
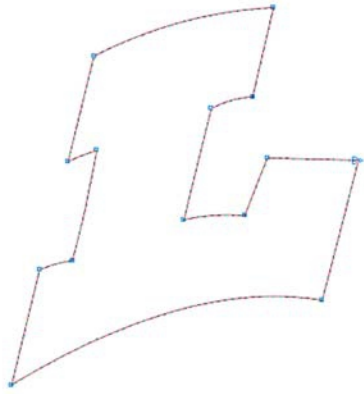Outline vector path to "KEEP"   Bitmap image to "Delete"

Connect any point that may not be closed. Otherwise when attempting to cut it, it will not cut in a proper order and cuts could go clockwise and counter clockwise.

Notice: when an object is open and multiple objects are selected there will be blue/red triangles that appear at the start and end points this indicates the path is open and not closed as it should be. To connect the objects as one joined path, simply click on a blue triangle and drag it away and then bring it back to the next triangle. This will then turn the triangle into a square node indicating that it is now one path.

Hint 1: connect the un-joined paths by first selecting the required objects. Then click Object on the menu and click Combine. Simply drag one triangle control point away from the other and back again to close the point. Continue this until only one blue triangle remains.
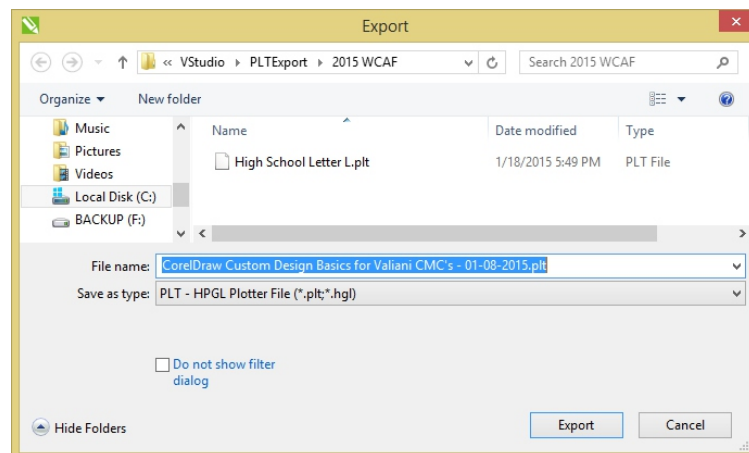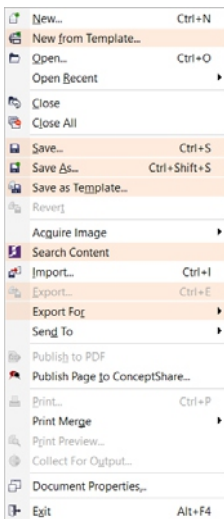
Notice: when an object is closed and then selected and one single blue triangle appears at the start and end points this indicates the path is closed as it should be. This indicates a closed path

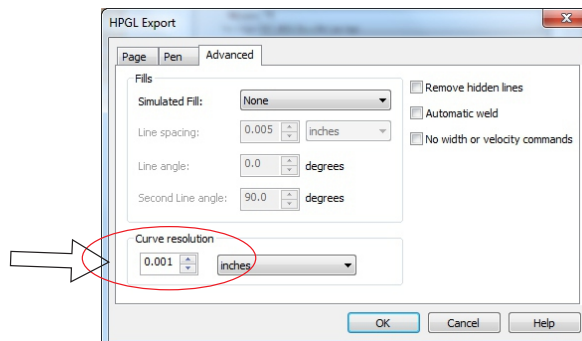*Hint 1: eliminate any additional nodes that will not take away from the design.*

Hint 2: double click on the node to delete.

b. Saving and Exporting Design

Save and export your file. Make certain to save the native CorelDraw file so future changes can be made. Otherwise, the file will have to be re-outlined. Save time and be sure to save the .cdr file. The Valiani V-Studio Software requires a .PLT fi le for importing custom designs. A .PLT file is created by selecting File| Export. Then select the file extension as PLT.
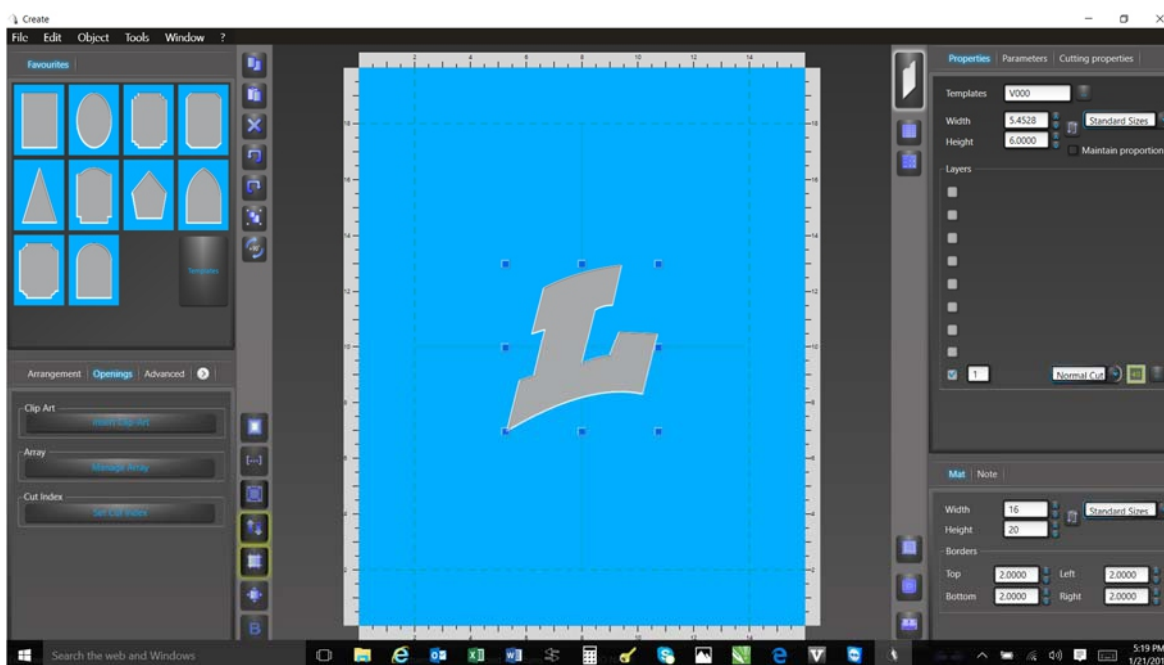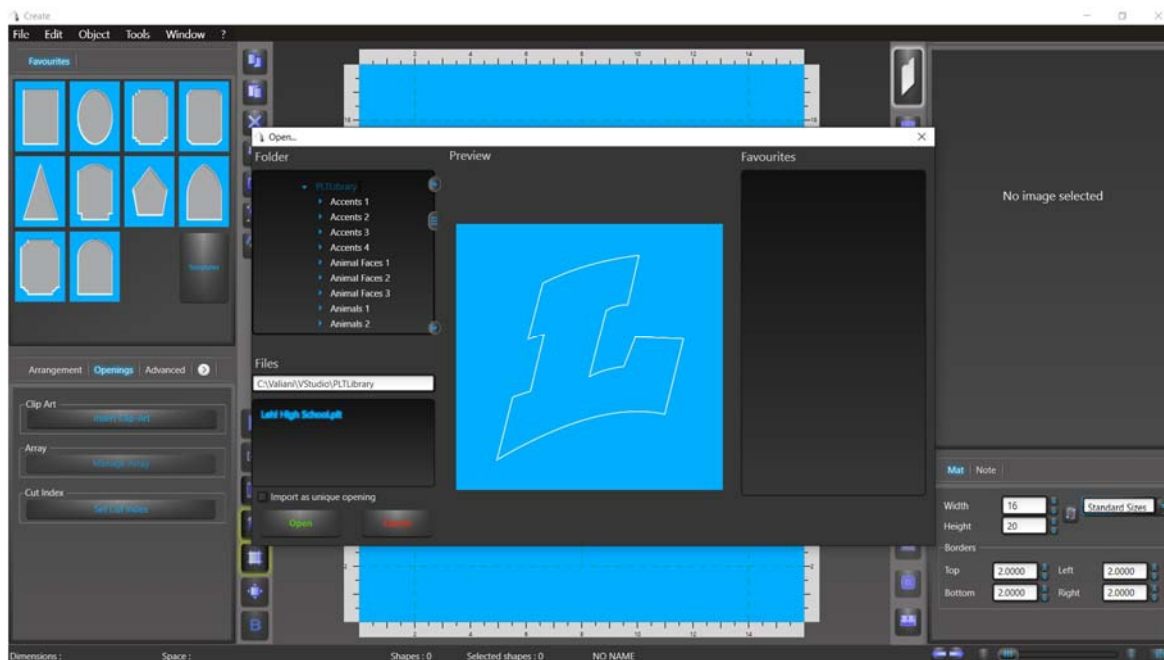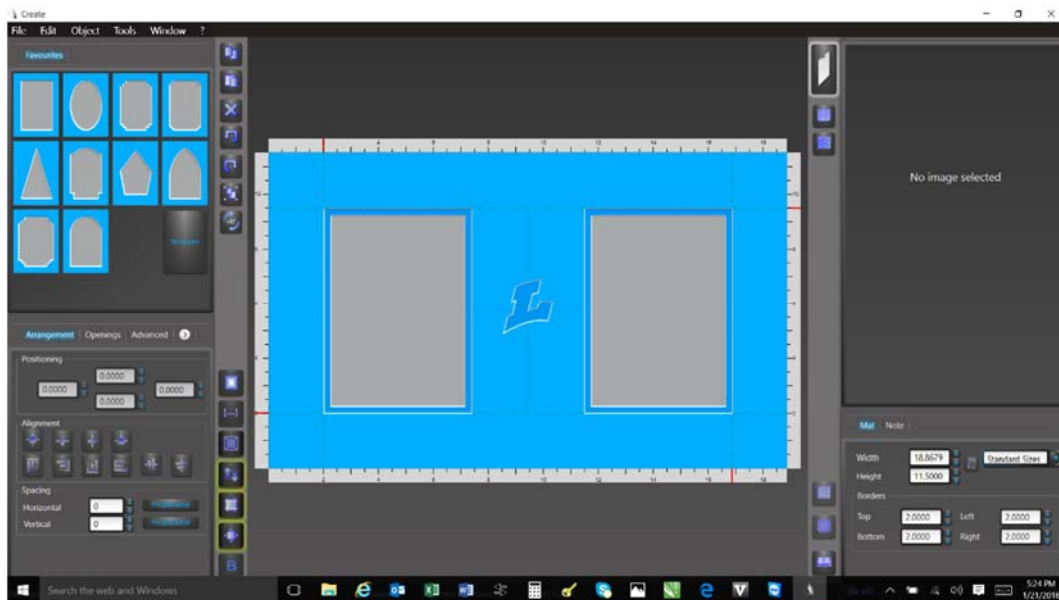
Hint 2: Export the Plotter file with a low Curve resolution.

Now that the Plotter file (PLT) has been saved in the V-Studio PLT Library folder, open V-Studio's Create and add the design through the Openings tab and Insert Clip-Art. Once the new Clip-Art design has been added from this point use the tools in Create to position, size, outline, shape, layer, change plotting process (tools) cut, draw, emboss etc.

5. Advanced V-Studio's Create Tools

1. Template/Parameter Control
2. Object Layering
3. Clipart
   a. Import as unique
   b. Maintain Proportion
   c. Mirror
4. Insert Contour
5. Group/Ungroup
6. Shaping Tools
7. Text
   a. Insert Text
   b. Split Text
   c. Convert to V000
8. Spacing
9. Top/Bottom Reference

Complete Machine Calibration   -
1. Single Click Create
    a. Set Mat Dimensions to 8x10 Inch
    b. Set Border Dimensions to 2 Inch
    c. Add Rectangle (4x6)
    d. Send to Cut
        i.   Click the CUT Button
        ii. Follow Smart Cut Instructions
        iii. Install Head
        iv. To Begin Set Dial Depth CW to 20 Less Than Actual Recommendation
        v.   Cut Gradually Working Towards Recommended Depth
    e. Check Hook Rotation Angle
    f. Check V-Groove Width
        i.   Adjust-Replace "Glide Foot" / "Red Rubber Roller Wheel"
    g. Determine Blade Depth
    h. Verify Opening Dimension
    i. Correct Start Point and End Point
    j. X & Y Homing Value (Correct Borders)
    k. Calibrate Oval

2. Routine Maintenance   –
    a. Day-to-Day
    b. Weekly
    c. Monthly
    d. Semi-Annually
    e. Annually