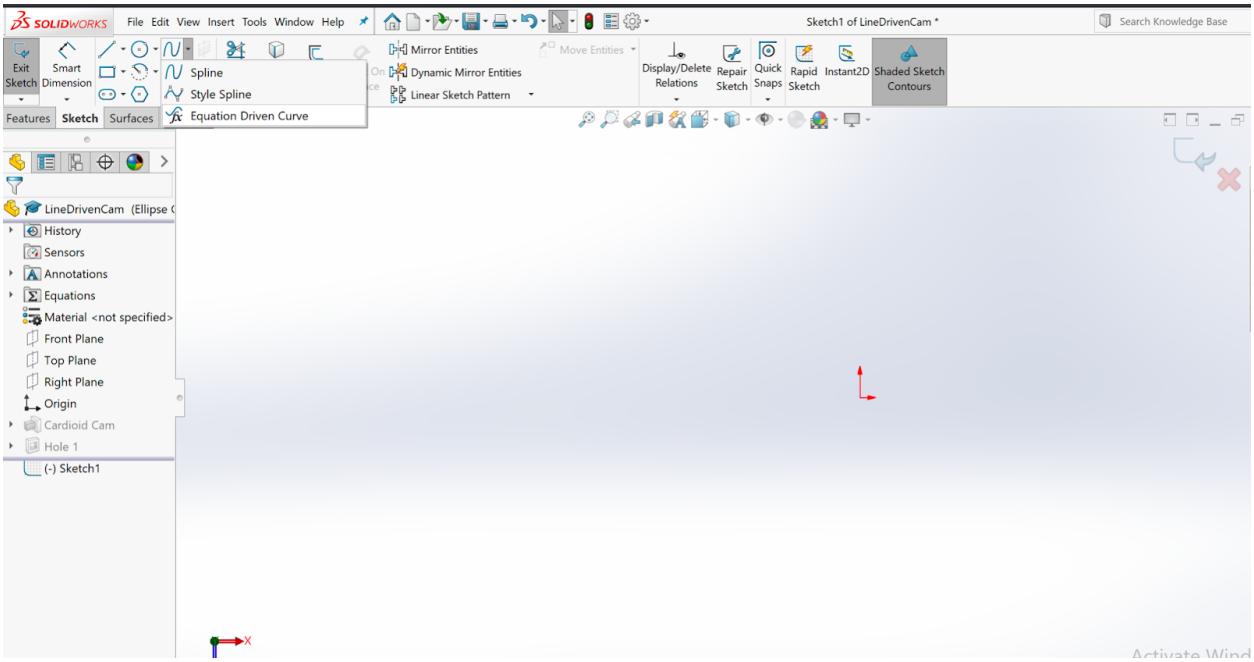
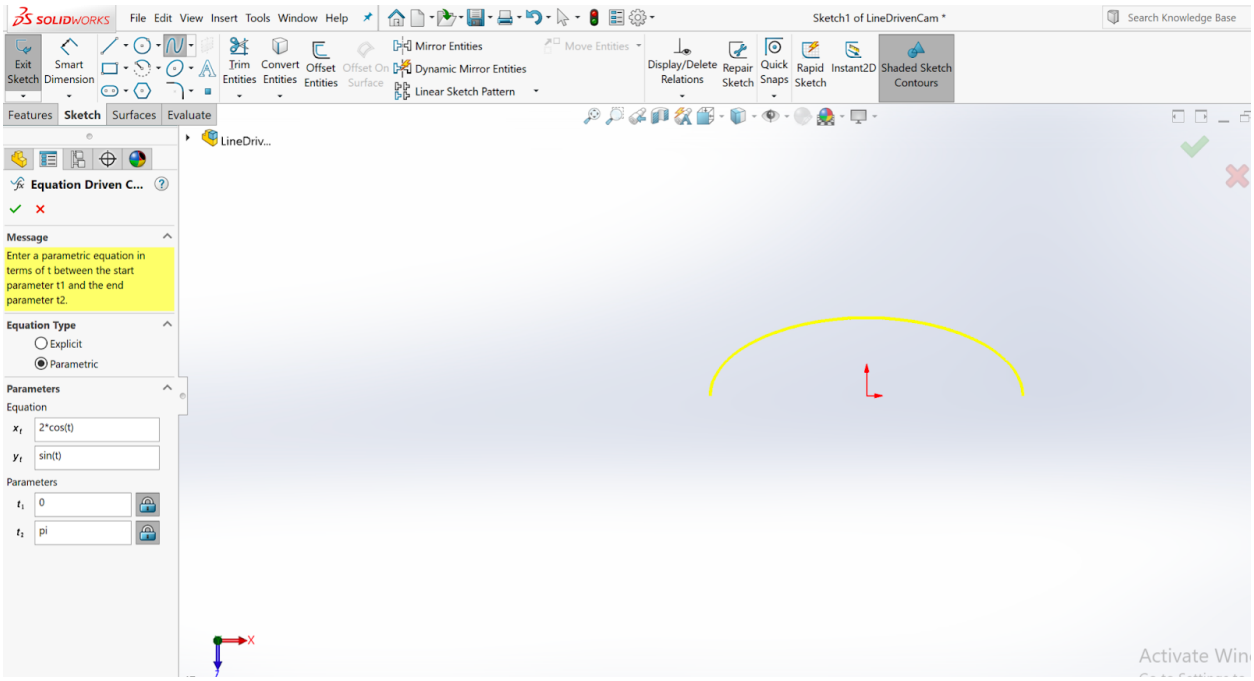
Creating Equation-Driven Curves:

One way to create unique cams is to create an equation-driven curve using parametric equations. To do this you first create a new sketch and then navigate to spline -> equation driven curve.



After choosing the parametric option you can input equations for x and y in terms of t and then set a range of values for t. SolidWorks cannot create closed curves so I created half of the curve and then used the mirror tool to create the full shape. Below are examples of a cardioid and an ellipse shape.


File Edit View Insert Tools Window Help
Sketch1 of LineDrivenCam *
Search Knowledge Base
Exit Sketch
Smart Dimension
Trim Entities
Convert Entities
Offset Entities
Offset On Surface
Mirror Entities
Dynamic Mirror Entities
Linear Sketch Pattern
Move Entities
Display/Delete Relations
Repair Sketch
Quick Snaps
Rapid Sketch
Instant2D
Shaded Sketch Contours
Features
Sketch
Surfaces
Evaluate
LineDriv...
Equation Driven C...
Message
Enter a parametric equation in terms of t between the start parameter t1 and the end parameter t2.
Equation Type
Explicit
Parametric
Parameters
Equation
x_t
2*cos(t)
y_t
sin(t)
Parameters
t1
0
t2
pi
X
Y
Activate Win