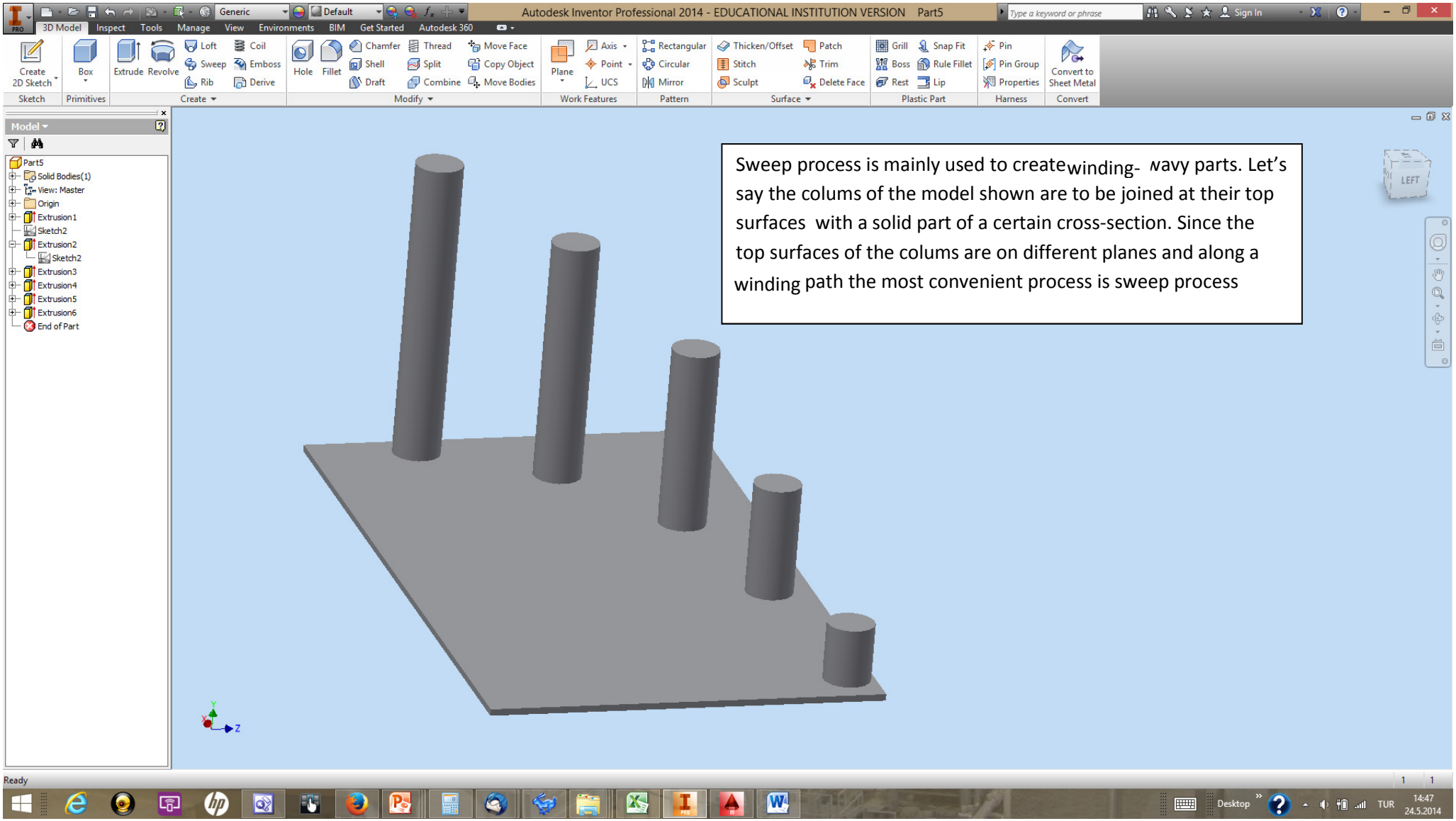
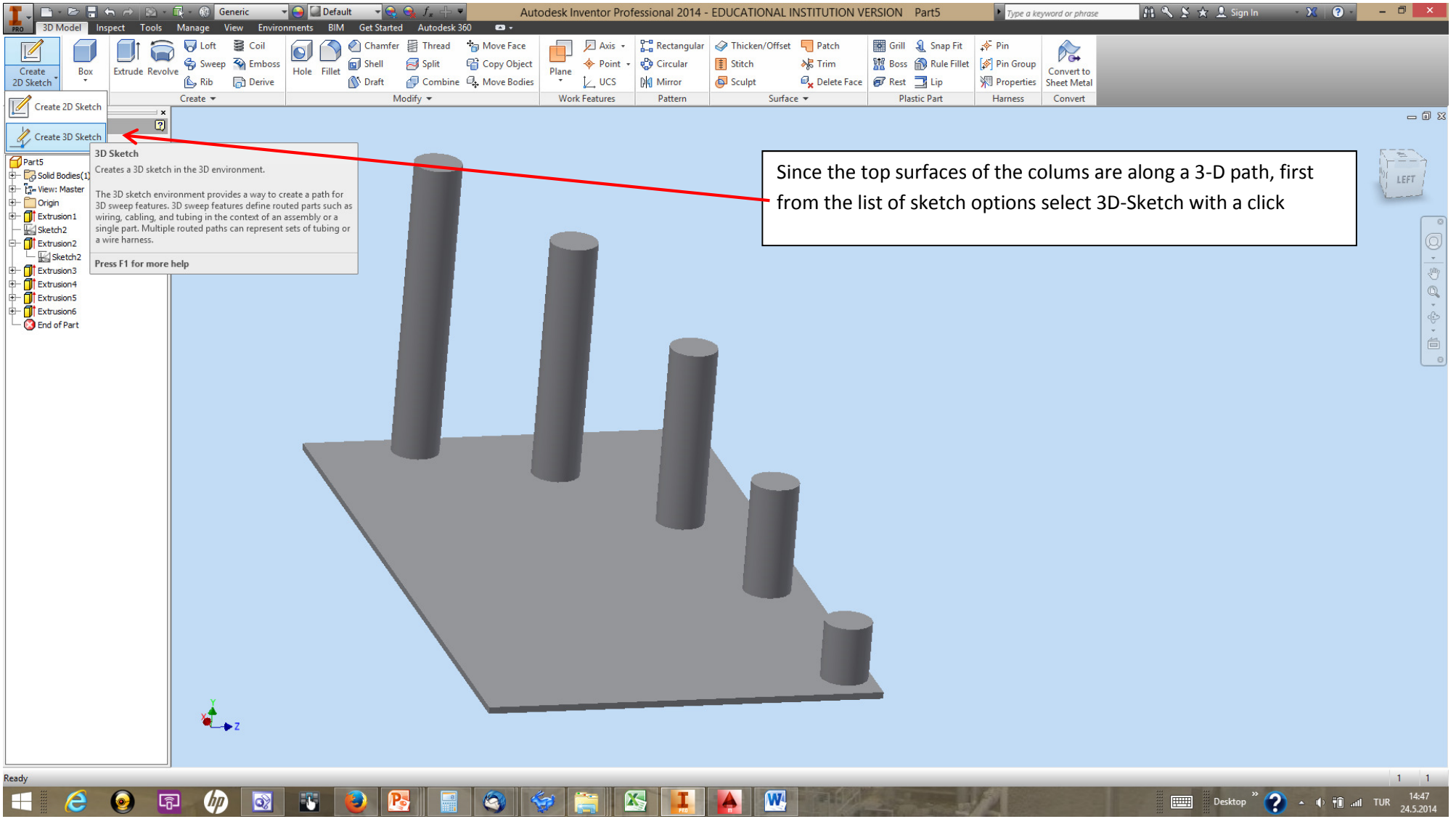
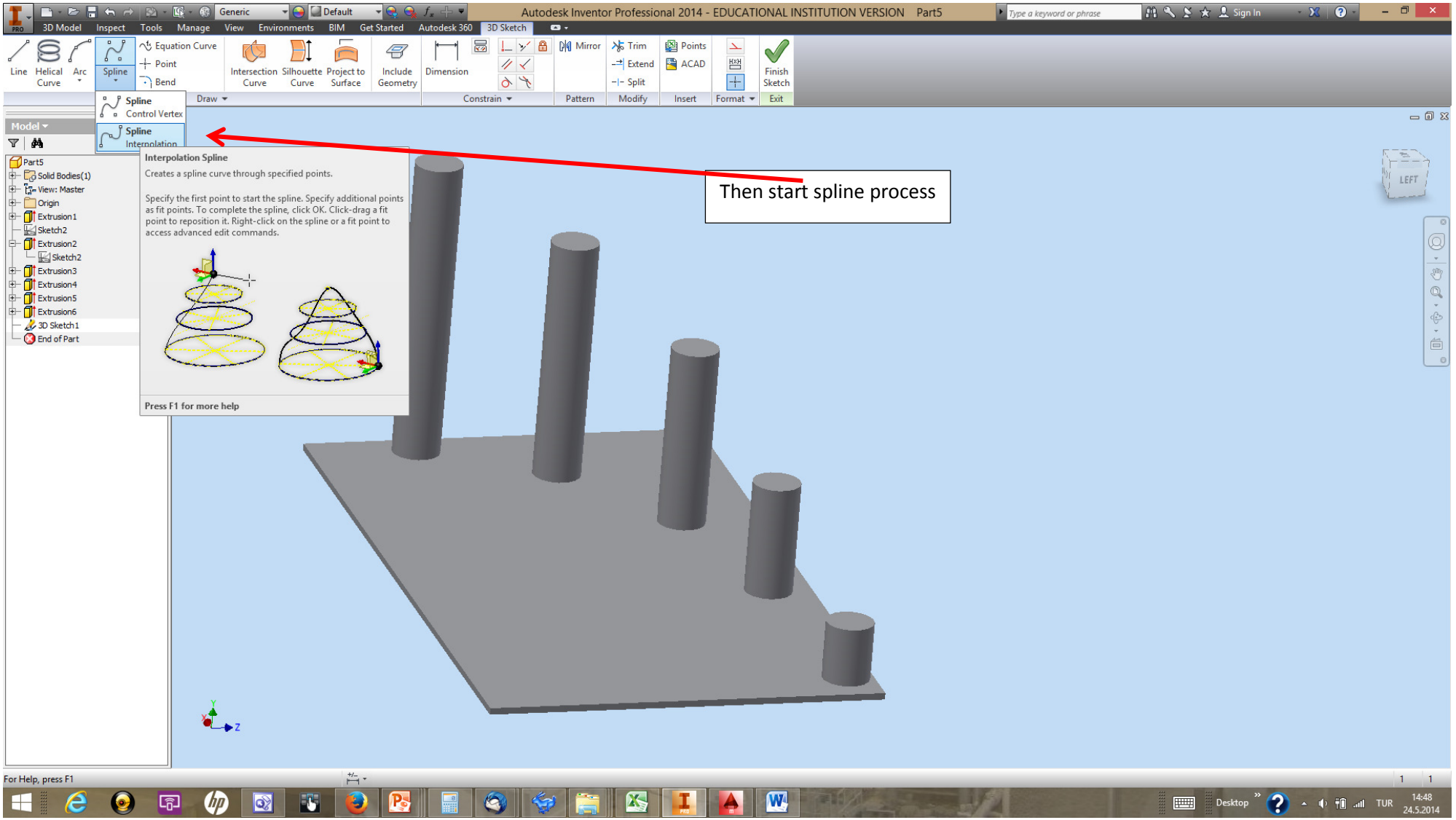
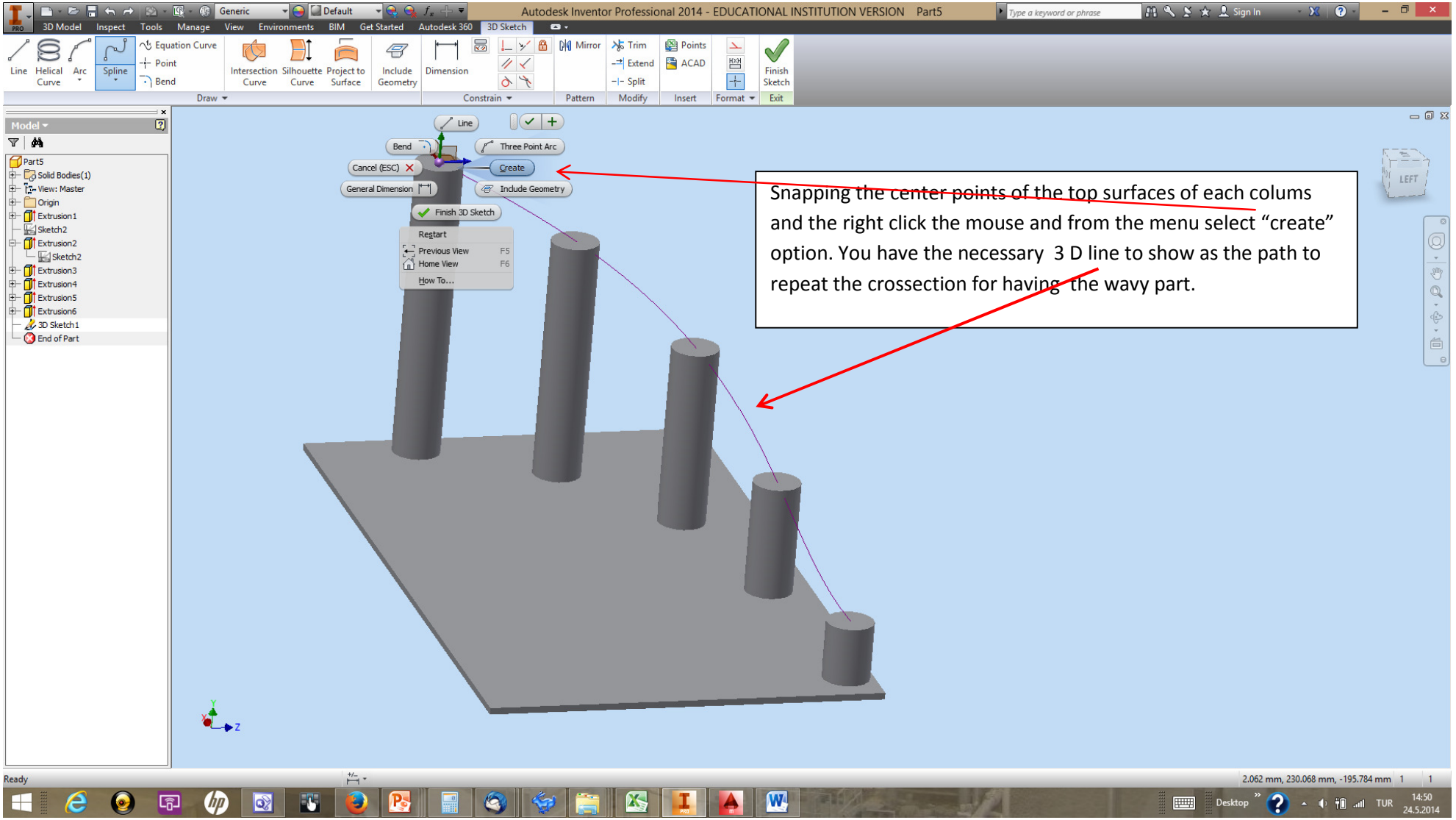
SWEEP Process:

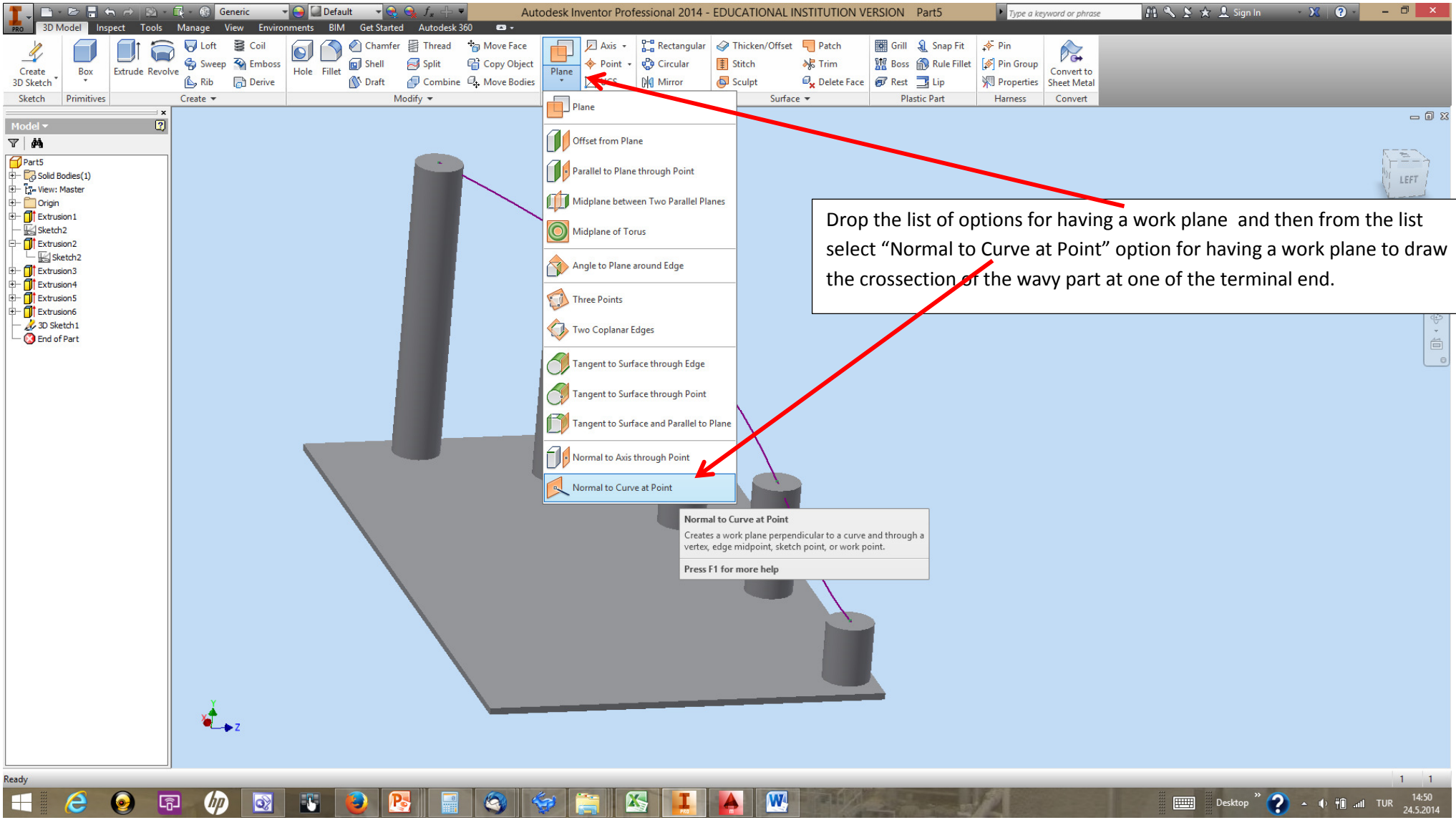
Example

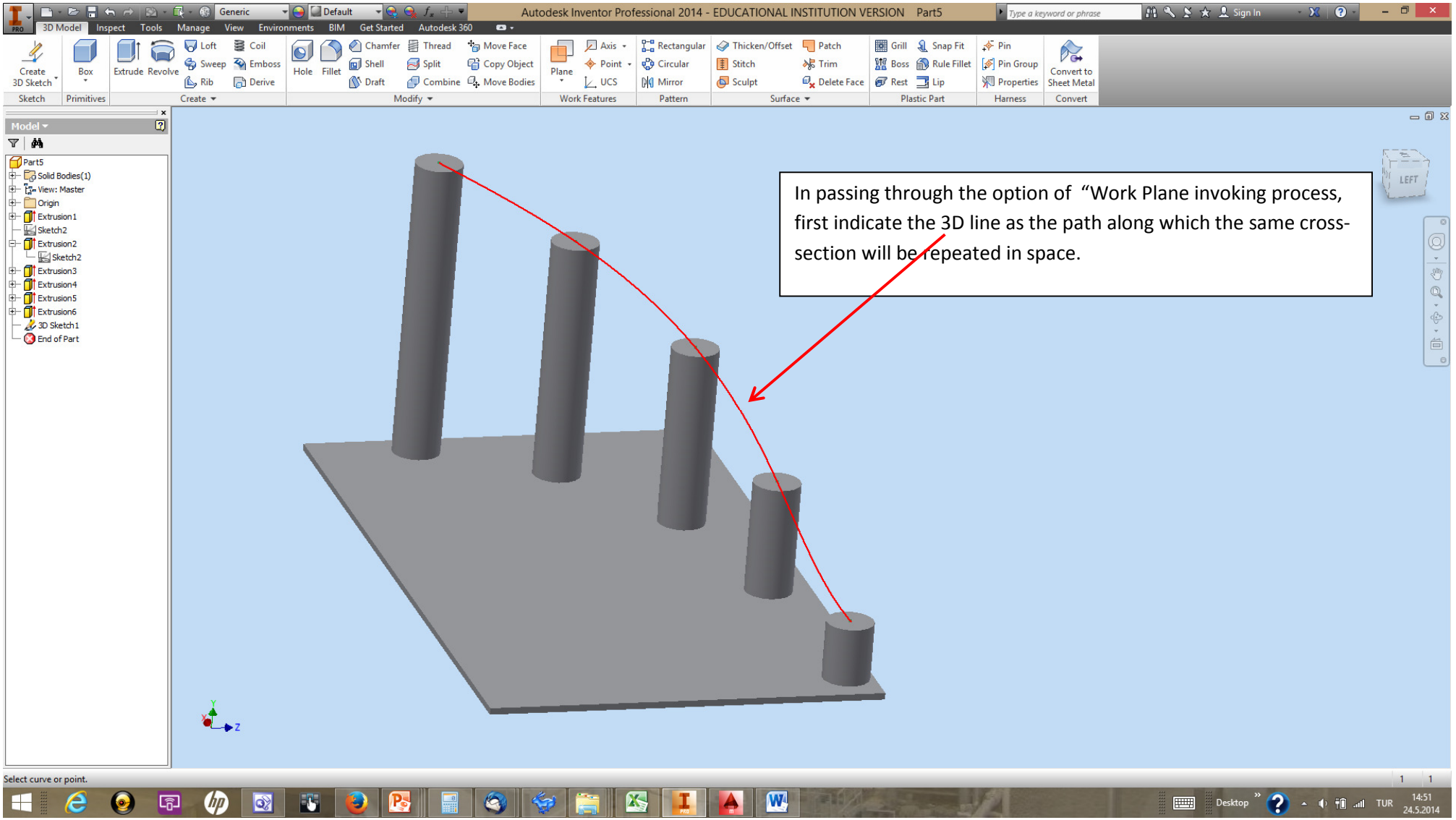


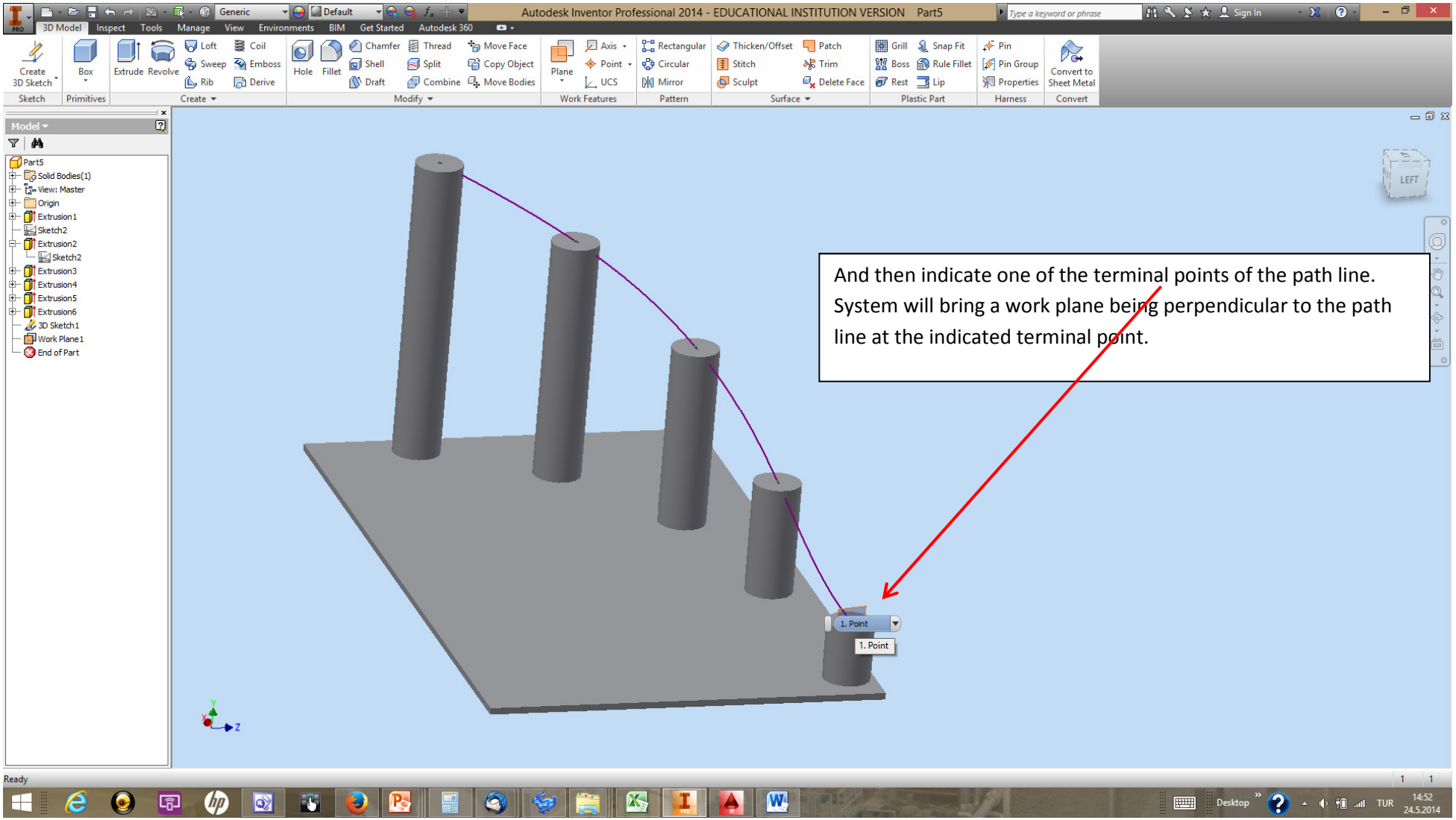

Autodesk Inventor Professional 2014 - EDUCATIONAL INSTITUTION VERSION Part5
3D Model
Inspect
Tools
Manage
View
Environments
BIM
Get Started
Autodesk 360
Create 2D Sketch
Create 3D Sketch
3D Sketch
Creates a 3D sketch in the 3D environment.
The 3D sketch environment provides a way to create a path for 3D sweep features. 3D sweep features define routed parts such as wiring, cabling, and tubing in the context of an assembly or a single part. Multiple routed paths can represent sets of tubing or a wire harness.
Press F1 for more help
Part5
Solid Bodies(1)
View: Master
Origin
Extrusion1
Sketch2
Extrusion2
Sketch2
Extrusion3
Extrusion4
Extrusion5
Extrusion6
End of Part
Since the top surfaces of the colums are along a 3-D path, first from the list of sketch options select 3D-Sketch with a click
LEFT
Ready

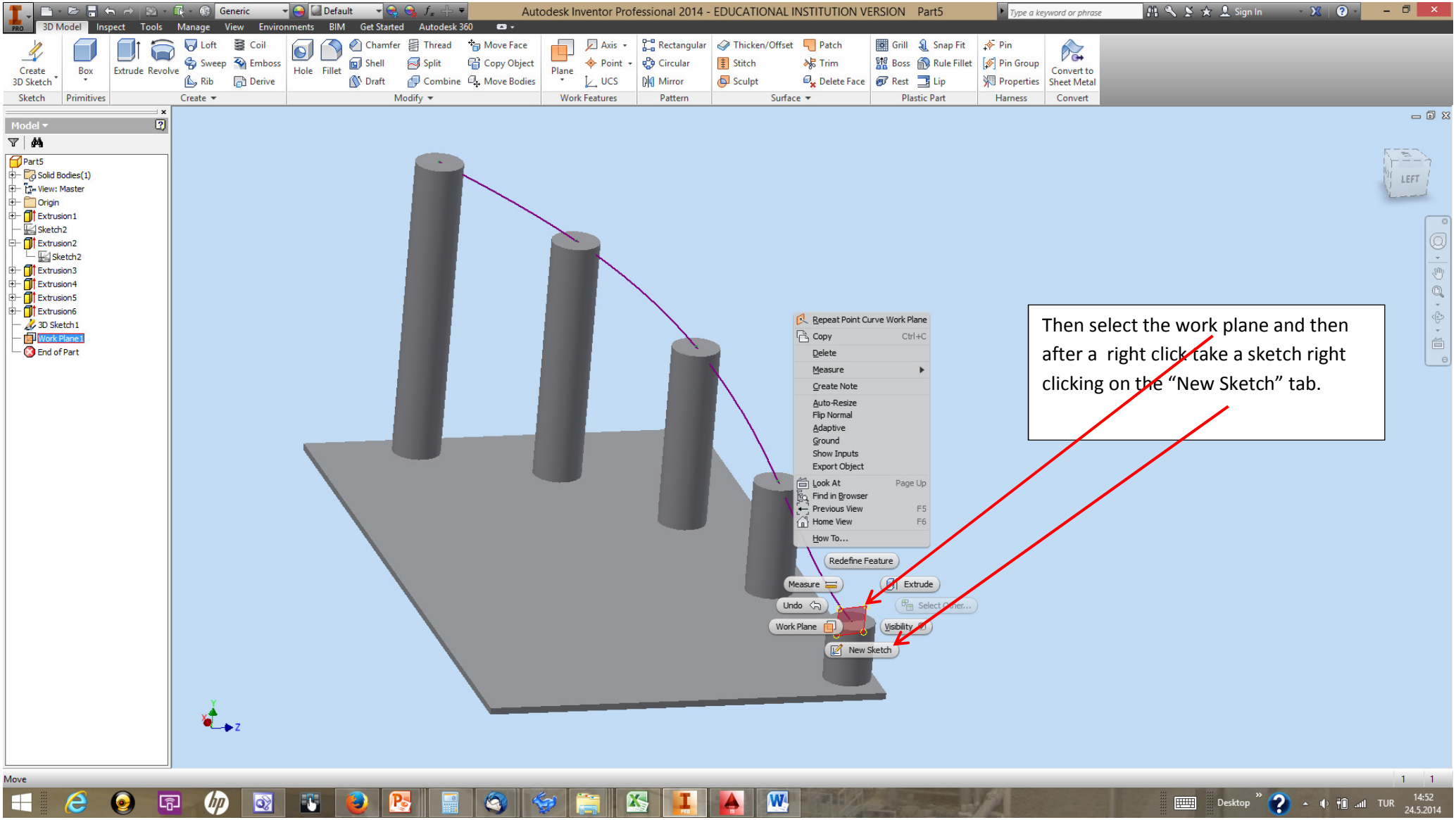

Autodesk Inventor Professional 2014 - EDUCATIONAL INSTITUTION VERSION Part5
3D Model Inspect Tools Manage View Environments BIM Get Started Autodesk 360 3D Sketch
Line Helical Curve Arc Spline Equation Curve Point Bend Intersection Curve Silhouette Curve Project to Surface Include Geometry Dimension Mirror Trim Extend Split Points ACAD Finish Sketch
Draw Constrain Pattern Modify Insert Format Exit
Spline Control Vertex
Spline Interpolation
Interpolation Spline
Creates a spline curve through specified points.
Specify the first point to start the spline. Specify additional points as fit points. To complete the spline, click OK. Click-drag a fit point to reposition it. Right-click on the spline or a fit point to access advanced edit commands.
Press F1 for more help
Then start spline process
Model
Part5
Solid Bodies(1)
View: Master
Origin
Extrusion1
Sketch2
Extrusion2
Sketch2
Extrusion3
Extrusion4
Extrusion5
Extrusion6
3D Sketch1
End of Part
LEFT
For Help, press F1
Desktop
TUR
14:48
24.5.2014

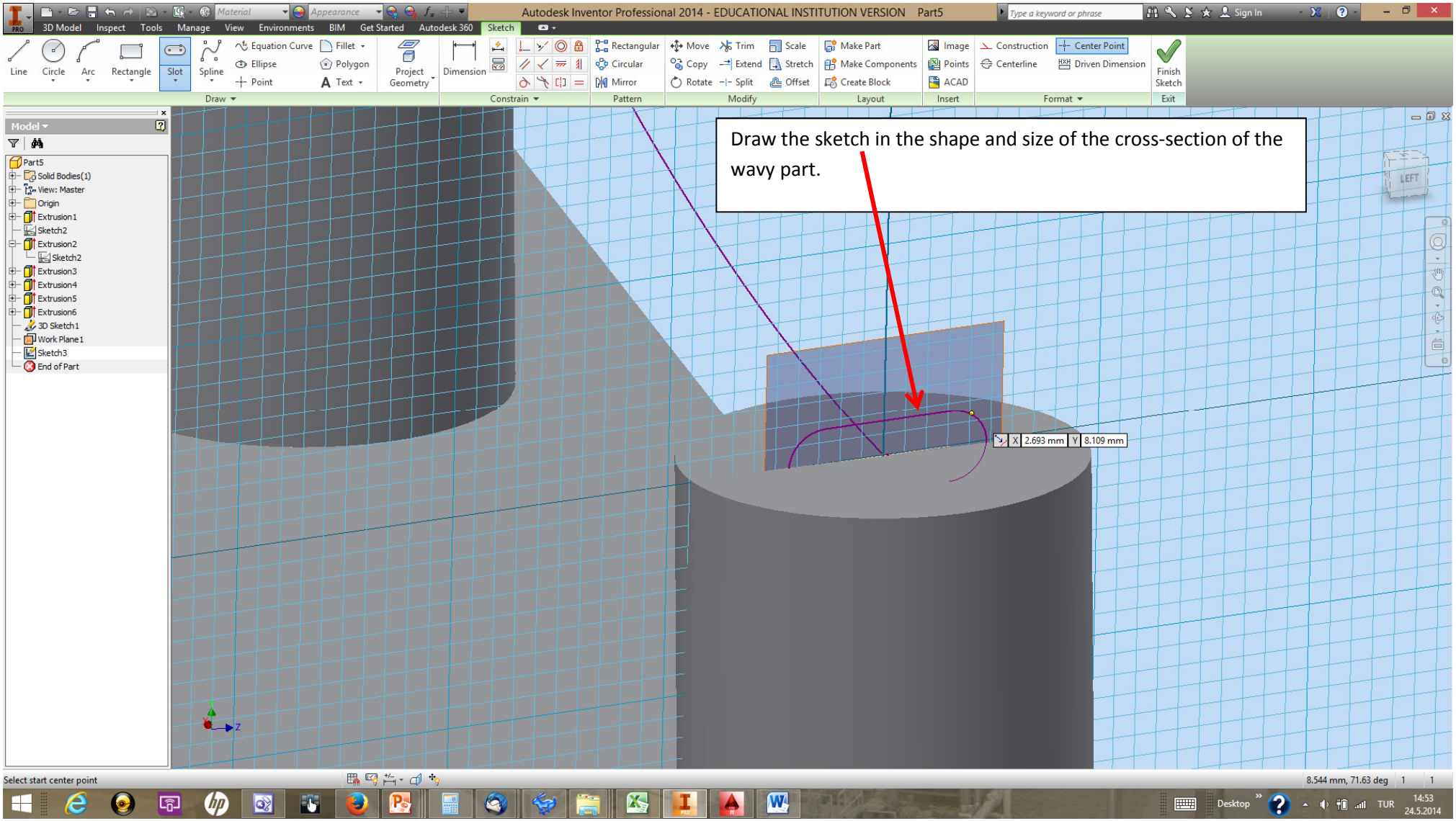

Autodesk Inventor Professional 2014 - EDUCATIONAL INSTITUTION VERSION Part5
3D Model Inspect Tools Manage View Environments BIM Get Started Autodesk 360 3D Sketch
Line Helical Curve Arc Spline Equation Curve Point Bend
Intersection Curve Silhouette Curve Project to Surface Include Geometry
Dimension
Mirror Trim Extend Split Points ACAD
Finish Sketch
Draw Constrain Pattern Modify Insert Format Exit
Model
Part5
Solid Bodies(1)
View: Master
Origin
Extrusion1
Sketch2
Extrusion2
Sketch2
Extrusion3
Extrusion4
Extrusion5
Extrusion6
3D Sketch1
End of Part
Line
Bend
Three Point Arc
Cancel (ESC)
Create
General Dimension
Include Geometry
Finish 3D Sketch
Restart
Previous View F5
Home View F6
How To...
LEFT
Snapping the center points of the top surfaces of each colums and the right click the mouse and from the menu select “create” option. You have the necessary 3 D line to show as the path to repeat the crossection for having the wavy part.
Ready
2.062 mm, 230.068 mm, -195.784 mm
Desktop
TUR
14:50
24.5.2014

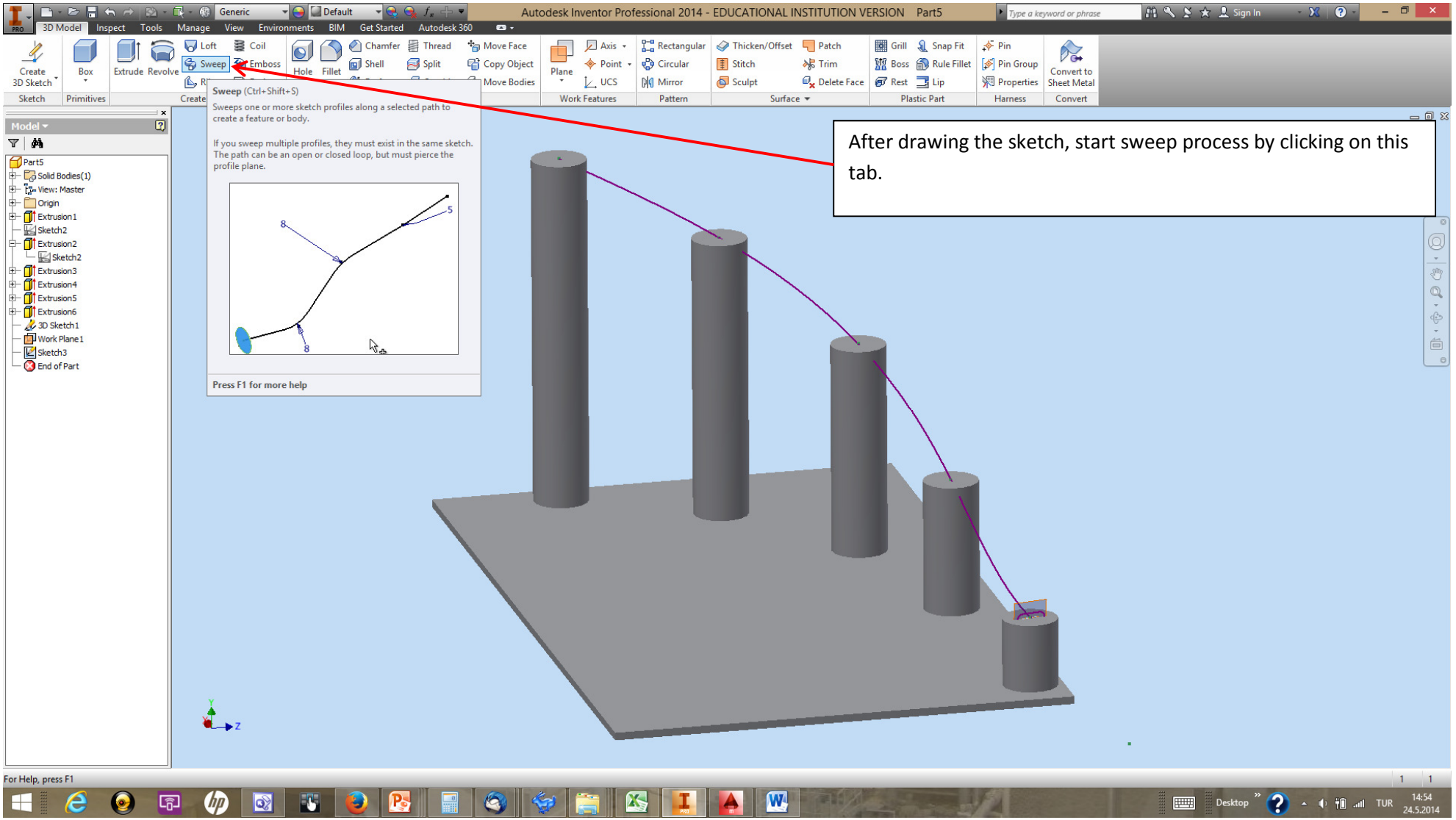

Autodesk Inventor Professional 2014 - EDUCATIONAL INSTITUTION VERSION Part5
Plane
Offset from Plane
Parallel to Plane through Point
Midplane between Two Parallel Planes
Midplane of Torus
Angle to Plane around Edge
Three Points
Two Coplanar Edges
Tangent to Surface through Edge
Tangent to Surface through Point
Tangent to Surface and Parallel to Plane
Normal to Axis through Point
Normal to Curve at Point
Normal to Curve at Point
Creates a work plane perpendicular to a curve and through a vertex, edge midpoint, sketch point, or work point.
Press F1 for more help
Drop the list of options for having a work plane and then from the list select “Normal to Curve at Point” option for having a work plane to draw the crossection of the wavy part at one of the terminal end.

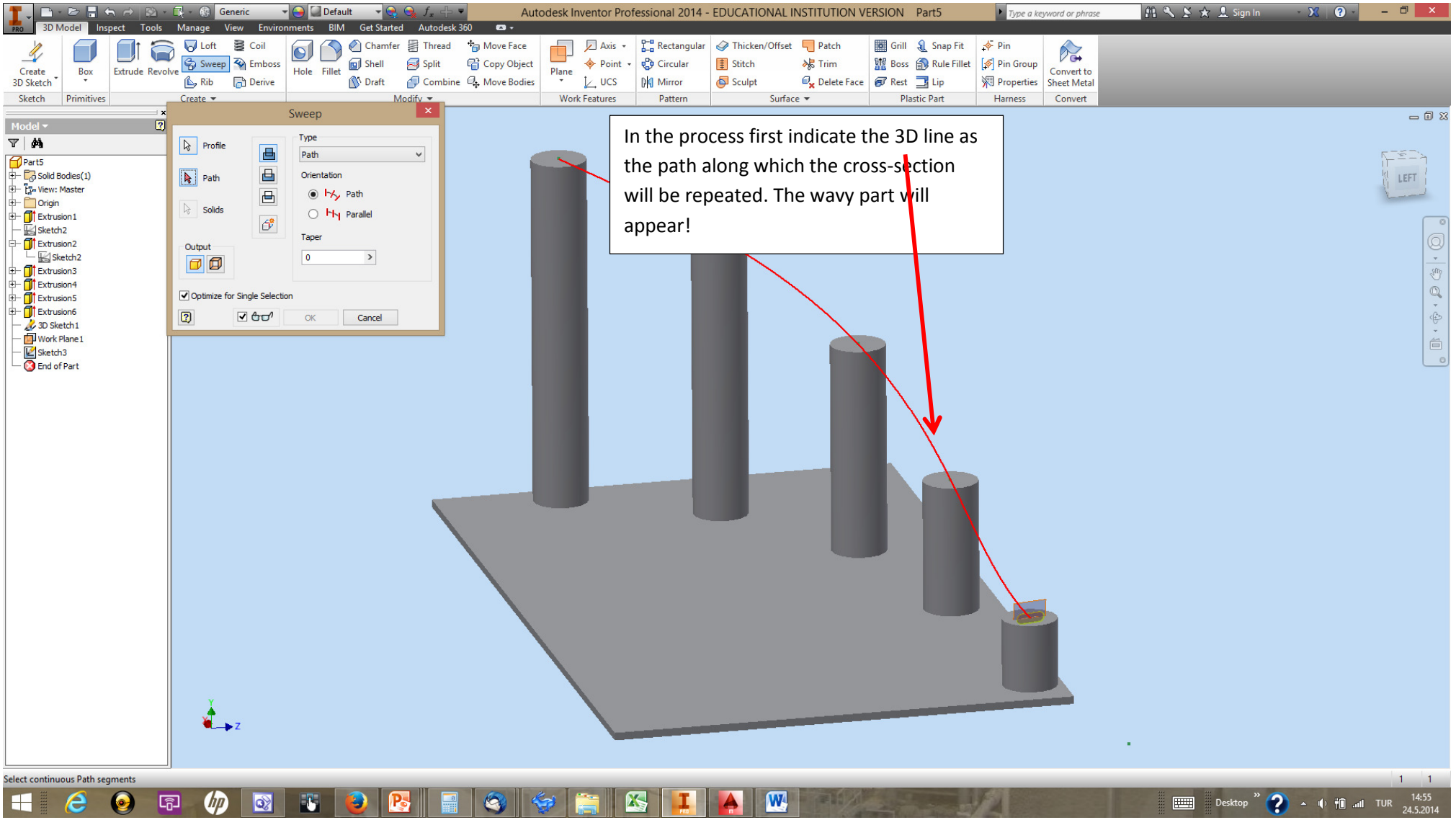

Autodesk Inventor Professional 2014 - EDUCATIONAL INSTITUTION VERSION Part5
In passing through the option of "Work Plane invoking process, first indicate the 3D line as the path along which the same cross-section will be repeated in space.
Model
Part5
Solid Bodies(1)
View: Master
Origin
Extrusion1
Sketch2
Extrusion2
Sketch2
Extrusion3
Extrusion4
Extrusion5
Extrusion6
3D Sketch1
End of Part
LEFT
Select curve or point.

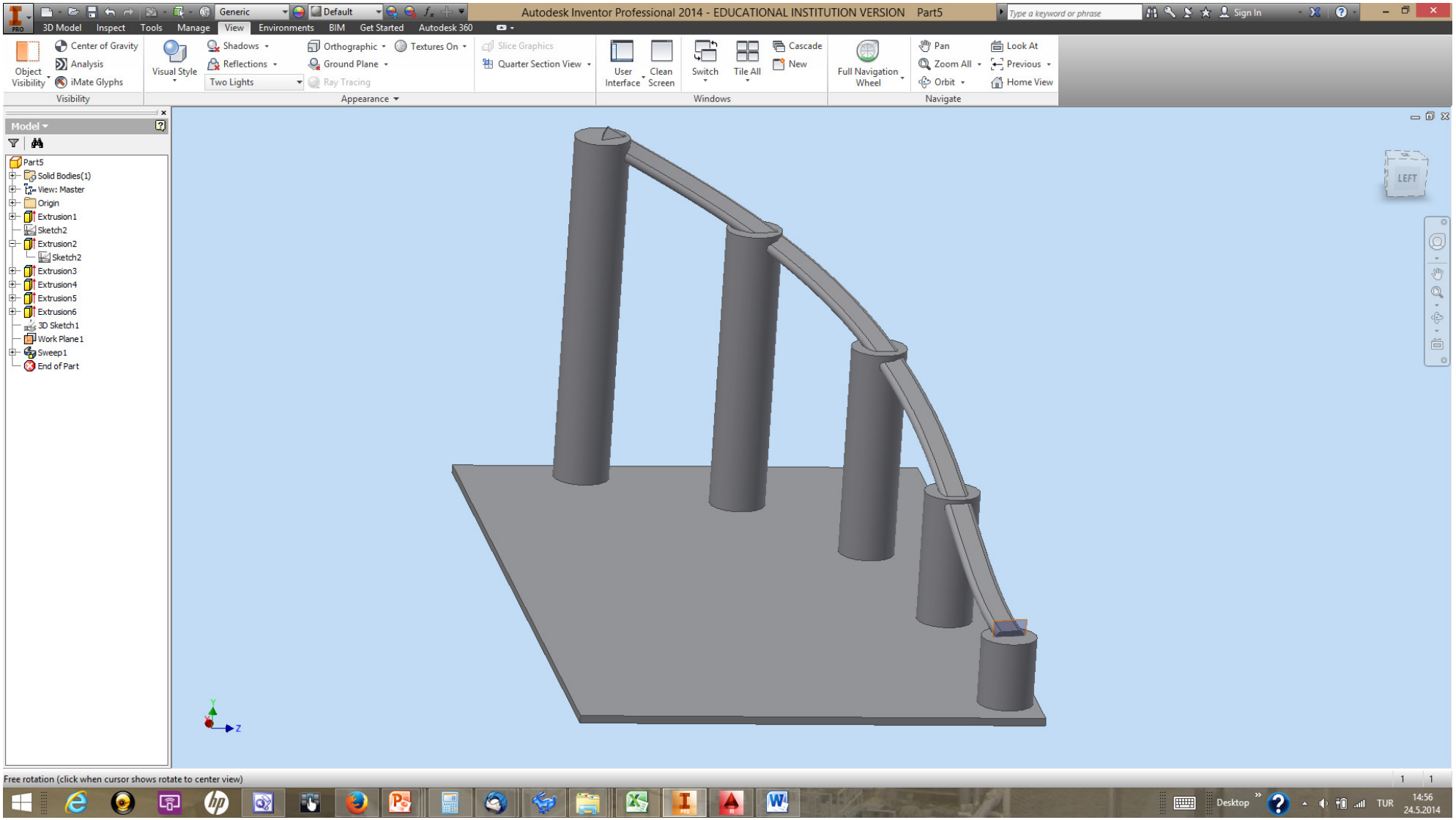

Autodesk Inventor Professional 2014 - EDUCATIONAL INSTITUTION VERSION Part5
3D Model
Inspect
Tools
Manage
View
Environments
BIM
Get Started
Autodesk 360
Create 3D Sketch
Box
Extrude
Revolve
Loft
Sweep
Rib
Coil
Emboss
Derive
Hole
Fillet
Chamfer
Shell
Draft
Thread
Split
Combine
Move Face
Copy Object
Move Bodies
Plane
Axis
Point
UCS
Rectangular
Circular
Mirror
Thicken/Offset
Stitch
Sculpt
Patch
Trim
Delete Face
Grill
Boss
Rest
Snap Fit
Rule Fillet
Lip
Pin
Pin Group
Properties
Convert to Sheet Metal
Sketch
Primitives
Create
Modify
Work Features
Pattern
Surface
Plastic Part
Harness
Convert
Model
Part5
Solid Bodies(1)
View: Master
Origin
Extrusion1
Sketch2
Extrusion2
Sketch2
Extrusion3
Extrusion4
Extrusion5
Extrusion6
3D Sketch1
Work Plane1
End of Part
LEFT
1. Point
1. Point
And then indicate one of the terminal points of the path line. System will bring a work plane being perpendicular to the path line at the indicated terminal point.
Ready
Desktop
TUR
14:52
24.5.2014


Autodesk Inventor Professional 2014 - EDUCATIONAL INSTITUTION VERSION Part5
Then select the work plane and then after a right click take a sketch right clicking on the “New Sketch” tab.
Repeat Point Curve Work Plane
Copy Ctrl+C
Delete
Measure
Create Note
Auto-Resize
Flip Normal
Adaptive
Ground
Show Inputs
Export Object
Look At Page Up
Find in Browser
Previous View F5
Home View F6
How To...
Redefine Feature
Measure
Extrude
Undo
Work Plane
Visibility
New Sketch
Model
Part5
Solid Bodies(1)
View: Master
Origin
Extrusion1
Sketch2
Extrusion2
Sketch2
Extrusion3
Extrusion4
Extrusion5
Extrusion6
3D Sketch1
Work Plane1
End of Part
LEFT
Move


Autodesk Inventor Professional 2014 - EDUCATIONAL INSTITUTION VERSION Part5
3D Model Inspect Tools Manage View Environments BIM Get Started Autodesk 360 Sketch
Line Circle Arc Rectangle Slot Spline Equation Curve Ellipse Point Fillet Polygon Text Project Geometry
Dimension
Rectangular Circular Mirror
Move Copy Rotate Trim Extend Split Scale Stretch Offset
Make Part Make Components Create Block
Image Points ACAD
Construction Centerline Center Point Driven Dimension
Finish Sketch
Draw Constrain Pattern Modify Layout Insert Format Exit
Model
Part5
Solid Bodies(1)
View: Master
Origin
Extrusion1
Sketch2
Extrusion2
Sketch2
Extrusion3
Extrusion4
Extrusion5
Extrusion6
3D Sketch1
Work Plane1
Sketch3
End of Part
Draw the sketch in the shape and size of the cross-section of the wavy part.
X 2.693 mm Y 8.109 mm
LEFT
Select start center point
8.544 mm, 71.63 deg
Desktop
TUR
14:53
24.5.2014


Autodesk Inventor Professional 2014 - EDUCATIONAL INSTITUTION VERSION Part5
3D Model
Inspect
Tools
Manage
View
Environments
BIM
Get Started
Autodesk 360
Create 3D Sketch
Box
Extrude
Revolve
Loft
Sweep
Coil
Emboss
Hole
Fillet
Chamfer
Shell
Thread
Split
Move Face
Copy Object
Move Bodies
Plane
Axis
Point
UCS
Rectangular
Circular
Mirror
Thicken/Offset
Stitch
Sculpt
Patch
Trim
Delete Face
Grill
Boss
Rest
Snap Fit
Rule Fillet
Lip
Pin
Pin Group
Properties
Convert to Sheet Metal
Sketch
Primitives
Create
Work Features
Pattern
Surface
Plastic Part
Harness
Convert
Sweep (Ctrl+Shift+S)
Sweeps one or more sketch profiles along a selected path to create a feature or body.
If you sweep multiple profiles, they must exist in the same sketch. The path can be an open or closed loop, but must pierce the profile plane.
Press F1 for more help
Model
Part5
Solid Bodies(1)
View: Master
Origin
Extrusion1
Sketch2
Extrusion2
Sketch2
Extrusion3
Extrusion4
Extrusion5
Extrusion6
3D Sketch1
Work Plane1
Sketch3
End of Part
After drawing the sketch, start sweep process by clicking on this tab.
For Help, press F1
TUR
14:54
24.5.2014


Autodesk Inventor Professional 2014 - EDUCATIONAL INSTITUTION VERSION Part5
Sweep
Profile
Path
Solids
Type
Path
Orientation
Path
Parallel
Taper
0
Output
Optimize for Single Selection
OK
Cancel
In the process first indicate the 3D line as the path along which the cross-section will be repeated. The wavy part will appear!
Select continuous Path segments


Autodesk Inventor Professional 2014 - EDUCATIONAL INSTITUTION VERSION Part5
3D Model
Inspect
Tools
Manage
View
Environments
BIM
Get Started
Autodesk 360
Object Visibility
Center of Gravity
Analysis
iMate Glyphs
Visibility
Visual Style
Shadows
Reflections
Two Lights
Orthographic
Ground Plane
Ray Tracing
Textures On
Slice Graphics
Quarter Section View
Appearance
User Interface
Clean Screen
Switch
Tile All
Cascade
New
Windows
Full Navigation Wheel
Pan
Zoom All
Orbit
Look At
Previous
Home View
Navigate
Model
Part5
Solid Bodies(1)
View: Master
Origin
Extrusion1
Sketch2
Extrusion2
Sketch2
Extrusion3
Extrusion4
Extrusion5
Extrusion6
3D Sketch1
Work Plane1
Sweep1
End of Part
LEFT
Free rotation (click when cursor shows rotate to center view)
Desktop
TUR
14:56
24.5.2014