



Springing into Action
With Grasshopper!



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Rhino**ceros**



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Who is this video for?

Basic experience with Rhino

Design/computational architects

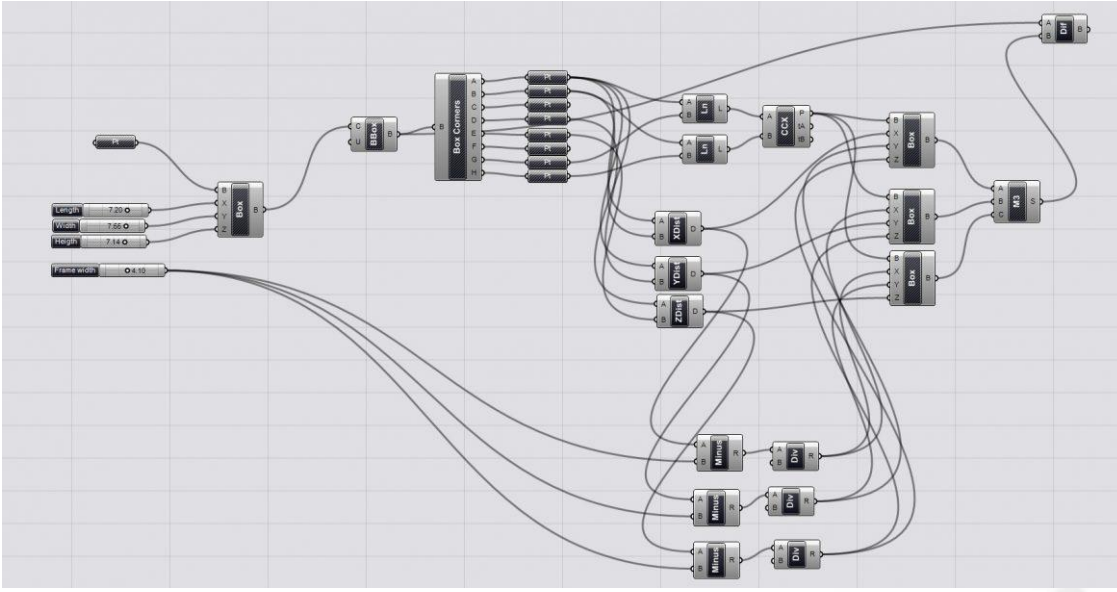
Looking to get started quickly

Ideally familiar with Dynamo



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A large, modern architectural structure featuring a complex, white, lattice-like canopy supported by thin poles. The canopy has a honeycomb-like pattern and is situated in front of a multi-story building with a grid of windows. The sky is overcast with grey clouds.



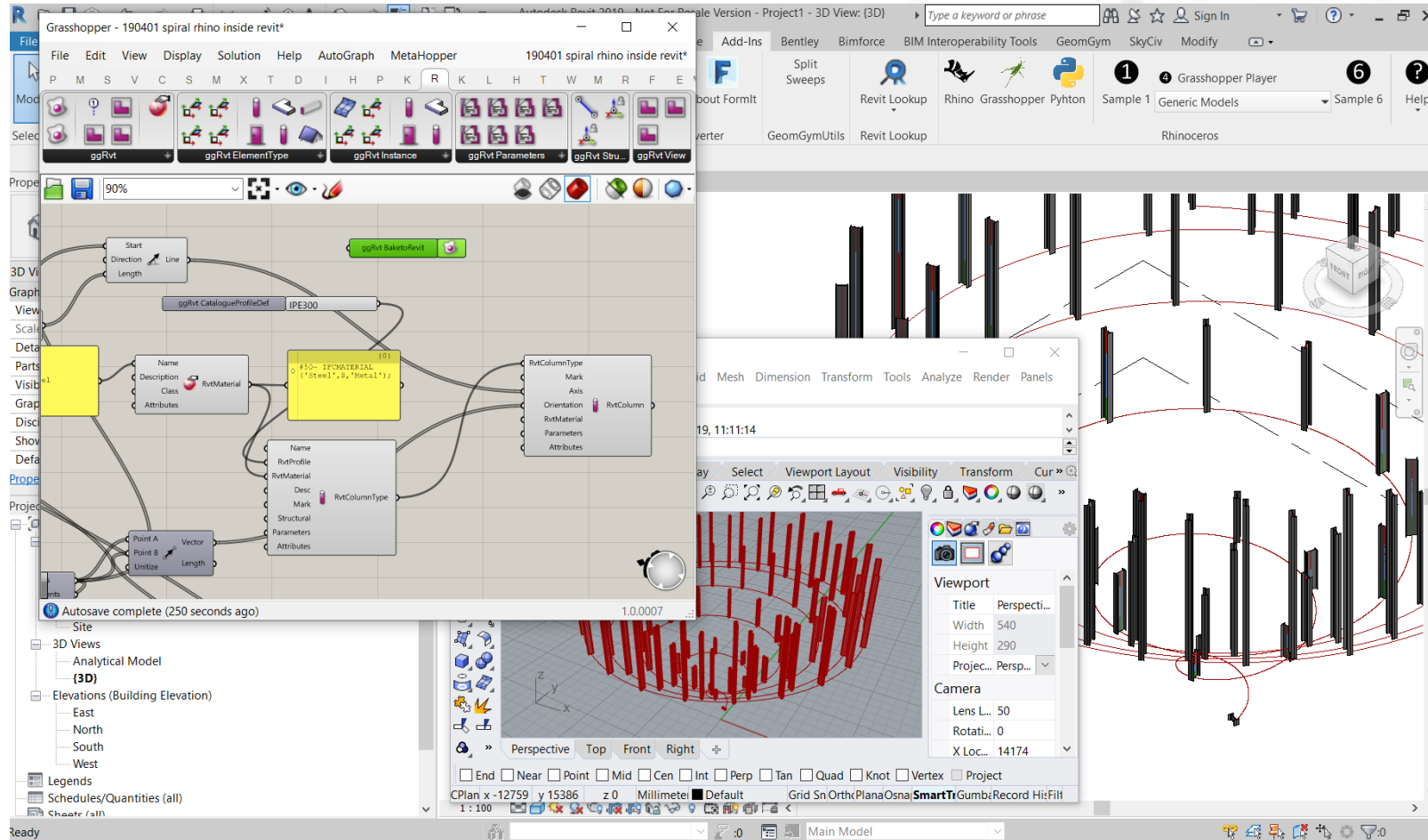


VS



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Rhino Inside (Revit)



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A background network diagram consisting of numerous grey dots (nodes) connected by thin grey lines (edges), forming a complex web-like structure that fills the right side of the slide.

To get started...



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Where to get it?

Rhino 6 it is included by default
Rhino 5 and before needs installation

<https://www.grasshopper3d.com/page/download-1>



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Grasshopper

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Download

Grasshopper is included with Rhino 6

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Latest Grasshopper for Rhino 5.0 (Windows only)

Grasshopper requires the latest Rhino service release.

[Download...](#)

Old Grasshopper for Rhino 4.0 (Windows only)

It is possible to download the last release that still worked on Rhino 4. We keep the installer available for download but obviously this release is no longer under active development. This release requires at least Rhino 4 SR8.

[Download...](#)

Rhino 5 for Mac now includes Grasshopper.

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Beginner's Tutorials

'Getting started' series by David Rutten

<https://vimeopro.com/rhino/grasshopper-getting-started-by-david-rutten>



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Grasshopper Getting Started By David Rutten

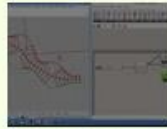
Wondering how to get started with Grasshopper. Look no further. Spend some time with the creator of Grasshopper, David Rutten, to learn the fundamental of Grasshopper. No experience necessary. This 13 part series covers topics that will help you build a foundational understanding of Grasshopper.



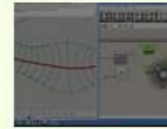
01 - Interface Basics



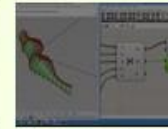
02 - Multiple Components



03 - Refining a Definition



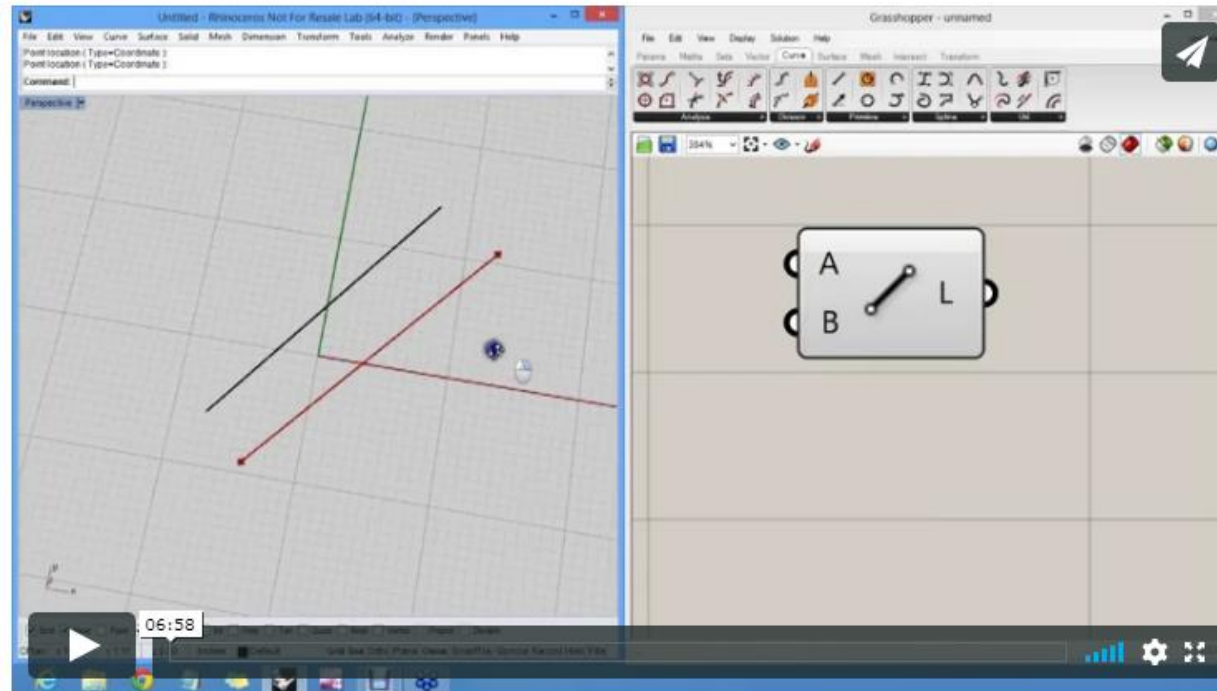
04 - Basics Questions and Answers



05 - Creating Biarcs



06 - Displaying the Definition with Colors



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Custom Add-ons

Usually named after animals!

<https://www.food4rhino.com/>

Strong community of developers



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food4Rhino

Apps for Rhino and Grasshopper

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Pufferfish



Mindesk VR



Rhino Inside for...



ShapeDiver



EasyJewels3D ver 2



Lands Design



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Component reference

(Very helpful for finding new functions)

<https://rhino.github.io/>



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Grasshopper






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Grasshopper Components

Version 0.9.76.0, **3114** components including addons.








Curve > Analysis

	Center (Cen) Find the center point and radius of arcs and circles.
	Evaluate Length (Eval) Evaluate a curve at a certain factor along its length. Length factors can be supplied both in curve units and normalized units. Change the [N] parameter to toggle between the two modes.
	Closed (CIs) Test if a curve is closed or periodic.
	Control Points (CP) Extract the nurbs control points and knots of a curve.
	Control Polygon (CPoly) Extract the nurbs control polygon of a curve.

Curve > Primitive

	Arc Create an arc defined by base plane, radius and angle domain.
	Modified Arc (ModArc) Create an arc based on another arc.
	Arc 3Pt (Arc) Create an arc through three points.
	Arc SED (Arc) Create an arc defined by start point, end point and a tangent vector.
	BiArc Create a bi-arc based on endpoints and tangents.
	Circle (Cir) Create a circle defined by base plane and radius.
	Circle 3Dt (Circle)

Surface > Analysis

	Area Moments (AMoments) Solve area moments for breps, meshes and planar closed curves.
	Area Solve area properties for breps, meshes and planar closed curves.
	Box Corners Extract all 8 corners of a box.
	Box Properties (BoxProp) Get some properties of a box
	Brep Closest Point (Brep CP) Find the closest point on a brep
	Brep Edges (Edges) Extract the edge curves of a brep.
	Brep Topology (Topology) Get and display the topology of a brep.



A background network diagram consisting of numerous grey dots (nodes) connected by thin grey lines (edges), forming a complex web-like structure that fills the right side of the slide.

Lets spring into action!



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