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QUICKSTART COURSE - MODULE 2 – PART 6

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Let's take a look at how we can create a floor for this building. We'll switch to the Slab tool, which is used for floors, but also for other flat elements such as countertops, shelves, occasionally for flat roofs, for paved areas and hard scapes. So anything that is flat can generally be approximated by the Slab tool. [0:26]

Now to draw the Slab tool, when we activate it, we have a choice of geometry options. So we have polygonal, rectangular, or rotated rectangle. I'll just show you very quickly by clicking a series of points. This is a polygon, it have any number of points. When I click on the first point, we get the hammer, and that closes and finishes the operation. When I use a rectangle, click two points, and of course I can type in values using the tracker to make them a certain size. And with the rotated rectangle, the first two points will determine the length and the angle. And of course, this can snap to known angles or I can type in those values, and then the additional click will determine the distance along the other direction. [1:13]

Now I'm going to go to 3D by hitting F3, and we'll see that these slabs have been drawn, as you would expect, lying flat on the ground. Now I'll go and undo, and I'll undo back all three of them. And we'll start to put in a real floor under the building. So, since the building is an irregular shape, I can use the polygon method to click on each corner point. So when I bring the crosshair cursor to the corner, it gets a checkmark. You'll see as I'm pulling the rubber band line out by moving my cursor, I get a white pencil. And when I get to the corner of the wall it becomes a black pencil. So I can just simply move until I get the black pencil, and click a series of about eight points here. And now I can go back to the first point, or I can simply click on the next to last point and it will close it. [2:12]

So basically, it has to create a closed shape. Now we don't really see the slab visible here, because it was drawn right underneath the walls, but when I go to 3D, we'll see that the slab has now been placed there. I'm going to undo and show you a different way to do this, because we could draw a rectangle say from this corner in the upper right down to the lower left, and that created one part of a slab. And then we can edit that slab shape to make it the shape that we need. So to edit the slab, we need to select it first. So I'll hold down the Shift key to get the arrow temporarily, and then click on a corner or an edge of the slab. You'll see now it's gotten highlighted with handles. [2:57]

Now when I press down on an edge point here, you'll see that there are different options in the Editing palette. The Editing palette will position itself somewhere near your cursor, and then when you let go, it will move to a preferred position. To adjust that preferred position, just grab the title bar and drag it.

Now if I grab any of the elements or any of the options in the pet palette down at the bottom, it's moving the entire thing or rotating the entire thing. You can see what it would do there. Or mirroring or elevating. So different options that would move the entire element. [3:39]

Now instead, if I go to the upper area, then it will be editing just part of the element. So for example, this one will add a node point, which I can position wherever I like. If I, instead of going to an edge, if I go to a corner, we'll have a somewhat different look to the pet palette, because I'm on a corner point. So it says, "Do you want to move that corner points?" So I'll just go and click to move it into position here. I'll go back to an edge and press down. And again, this gives me the option of adding a point. And in this case, instead of clicking sort of arbitrarily in space, I'll just bring it right to the point I want. And again, I'll grab another edge and add another point. And so I can, even after the fact, go and edit this by clicking on each edge and just dragging the point that I'm creating into position. And then, when I go to this final point, which needs to be readjusted, it remembers that the last editing I did with a point, having a point selected is to move the node. And so it just makes it very quick to reposition. So that's another way that we can edit this, is basically by drawing something with some points correct at the beginning, and then going to the edge and corner points and adding nodes and moving them into position. [5:08]

Now I'll go back and undo all of these points, or actually, I'll just hit the Delete key. So that selected slab goes away. And I'll do one other option which is very useful to know about. I'll click two points to determine this rectangle, and then I'll press down the Shift key and click on the edge or corner to select it. And in this case, when I press down, instead of saying I want to move this node, I'll use this little plus symbol, which says, "I would like to add some area to this". So when I click or select that, then it's basically saying, "Enter first corner of a rectangle slab". Essentially, create a rectangle and I will add it to this slab. So I'll go and click on these two convenient points, and when I finish by clicking the second time, you'll see how it added that entire rectangular area. [6:07]

And that overlapped the original rectangle. But it was not a problem; it simply added the new area to it. So any of those editing operations will work nicely. Now if I go to an edge here, and instead of wanting to add a point, I can go and offset. So you see that one of the options is to offset. And then I can offset it a specific distance. If I wanted it to be let's say a 6 foot length, or 2 m, I just type in 6 feet, hit Enter, that's going to be exactly 6 feet perpendicular to the edge that I was pointing at it. I can also go here that can also go here and move it just visually to where I want, and snap it perhaps to where it matches that corner. [6:51]

So other options would include going to an edge and choosing to curve. So I can actually curve this, and I can curve it again until I get the shape I want. If it is a curve, and I don't want it to be a curve, I want to get it back straight, then we use this point option here in a special way. When you're on an edge and you choose the point option and you let go, it will straighten and remove the curve. There's one other option that I will show you which is useful in some cases and that is to go to a corner and instead of moving one point or adding a volume or other things, we can offset all edges, making it bigger or smaller, essentially an offset command. [7:38]

And you can see now it's making the ghost image a little bigger in each direction or a little smaller. And if I type in a distance let's say 2 feet, which would be say 2/3 m or 600 mm, click on that, that extended it out by 2 feet in each direction. This can be very good for when you're trying to create a stem wall and footing, because you can make the footing go out the correct distance from the foundation stem wall. So I'll just undo by hitting Command+Z at this point. And then the final option here is sometimes you may want to fill the corner or a Transfer it. So if I have the slab selected, go to a corner, and then click on this option or select this option for Fill it, or Transfer, I can then choose what is going to be the radius. Let's just say 6 feet or 2 m and say OK. It will then curve that edge. And you may have noticed I'll just undo it again, that there is an option to apply to all corners, which wouldn't make sense for this building, but let's just take a look. You can see how it curved all the edges here. So I'll undo. [8:48]

So those are the basic methods that you can use to create and edit polygons such floor slabs. Those approaches actually apply to any polygon element in ArchiCAD such as the Slab tool, the Roof tool, the Mesh tool which is used for terrain modeling usually, the Fill tool here, which is used for filling in a 2D area with a hatch or fill or a poché. And many of those approaches can be also used with multiple lines, such as a poly line, or even when you have multiple walls selected. You'll find that you can use the same editing commands with the pet palette. So what you've learned just now for the Slab tool will actually apply in a great many areas within the ArchiCAD interface. So this concludes the final lesson in module 2 of the QuickStart course. Thanks for watching.