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QUICKSTART COURSE - MODULE 6 – PART 4

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Hello, this is Eric Bobrow. We'll continue from the previous lesson on stairs and take a look at how we can start putting in railings. So I'll go up to the second floor here in the upper story, and we'll go to the Object tool. So I'm in the Object tool, or I just switched to the Object tool rather than the stair tool, and I'll open up the settings of the Object tool. The last one that I was putting in was a plant, but for you it may be somewhat different. I'll find a railing the simple way by switching from folder view to Find Library Parts, and I'll just type in "rail". I could type in railing, but just rail will be good enough. And I'll say "Find". And you see there's a bunch of rails in the library. [29:15]

If I scroll down through this we'll see "Rail Wired". That looks like the one that we had in the stair. There's also a "Rail Wired 2". And you might need to experiment to see which of these gives you the controls you want. But let's just pick the simple "Rail Wired", and you can see what it's proposing that it will look like. That looks like a good enough starting point. Let's see how it's directed. Okay, so it basically is going to go vertically when I place this. And it has a certain size. We can look at the structural dimensions here and say the handrail width. That's interesting; let me change this to 2 inches wide here, and the handrail height to 1 inch. So you can play around with these things and see, either before you put it in or afterward. But let's just go with what we've got here and I'll say OK. And I'll just click to place it. [30:12]

Now in one of the earlier lessons, I had switched the insertion method for objects to rotate it on the fly. And sometimes it's fairly good. But if I just want to put it in the direction where I had it in the dialog box, I can use this geometry option that indicates that I'm going to be putting it in whatever fixed angle was already set. Now let me zoom in on this a little bit, and let's just grab the element, and then use the pet palette to say Drag. You can see the option to drag the whole thing here, and I'll snap it into position right along the length of the slab. So it is right on the edge. And then I want to stretch this. It needs to be longer. [30:59]

Now I could measure along how long this is and type in a value, but often it's easier just to stretch it into position. Now to stretch it, I'm going to need to press down on the center axis line and switch to the pet palette option to edit just that point. And you can see that when I do that - or sometimes I may need to switch a second time to have it take. This is a funny thing in ArchiCAD, sometimes you need to switch from one to another and then back, and you can see now it's changing the length of the railing. Now you may wonder, what about those other corner points that are here? If I press down on them, you'll see that it's actually changing the cutting angle. So, for example, if this was going to meet another railing

going in the other direction, then we might want to miter the corner. And I'll just undo that change, and complete the stretching from this point. And I'll just snap it. I'll make sure that my cursor is precisely on the wall face or the edge of the window here and click. And you can see how that now is neatly positioned. [32:06]

Now it's right at the edge of where the slab is cut. Perhaps I want to move it in a little bit. So I will maybe zoom in, and drag it from this corner. And I'll use the option to, instead of stretching or moving the one node point, I'll move the whole railing in. And I can do it any distance I want. But perhaps very simple is just drag it into what was its midline axis, which would be half of its width. Here it's 1 inch. I'll take that. So when I zoom back out, we'll see that it's now sitting just a nice, short distance from the edge of the stair where the slab is cut. So let's take a look in 3D here. So I'll then go back to 3D and there's that railing. It looks just fine to me. [33:05]

Now there are some that other options we can do to edit it, but I'll demonstrate those when we do our balcony rail. In fact, to show the balcony rail, let's just go back to the floor plan and make sure that our marquee is big enough. Yes, okay that's fine; it's going to be showing everything out to the side. If I go down to the lower story, you'll see what I'm talking about is that I wanted to make sure that it included this little protrusion where the kitchen sticks out further than the lower face of the wall. So if I go back again to show the marquee'd area in 3D, and use the Fit in Window to zoom out and the Orbit to rotate around, we'll see we have a little problem here. We need to put a floor for the balcony. [33:54]

Now I could select the slab that's used for the upper story floor, and I could extend it out. But often were going to have this extra piece have a different material, perhaps concrete instead of wood or carpet, and might even be a different thickness. So I'll go back to the floor plan and I'll just draw another slab out to the side. Now in order to see this, let me go up to the second floor or the upper story and right click on the lower story here and say Show as Trace Reference. So now, instantly I can see how this looks. Now when we're looking at the Trace Reference, if we want to change its color, I'll just open up the Trace Reference palette here from this little popup next to the Trace and Reference icon. And we can switch the look. So I can make it orange or another color; blue here, and I can also make it less prominent. So whatever you find most convenient, feel free to adjust that. [35:02]

Now I'll go to the Slab tool, because that's what I'd like to create, but in order to have something similar to the other slab, I'll use the eyedropper. I'll hold down the Option or the Alt key to get the eyedropper, and hover over either the center area where the slab is or the corner. As long as it indicates that it's going to pick up the settings of the slab, and that it looks like the right one. It says it's the floor at a certain layer, a certain elevation, I can eyedrop it. So that makes sure that I'm about to put in a slab with the same settings. Now I may change its material later, but for now I'm simply going to draw a box here to cover this up, and we'll go back to 3D. I'll just hit F3, and you see there is the piece that now fits in neatly right there. [35:58]

So let's put in some railings around here to make it a safe and code compliant installation. So I'll go back to the floor plan, and I'm just hitting F2 and F3 to go back and forth. Or on Mac, if you haven't switched your preferences, you may need to do Function+F2 and Function+F3. Or you can always use these

buttons right up here to do that. Now, I'll go to the Object tool. And the Object was last set to the rail, so I'll just click, and that just places a rail. Now I'll just go and move it into position. And as an expert, I could get it to just the right position in a single step, but I'd have to type in various things. It's often easier for a beginner to just move it into a known position by snapping. And then go and drag it again. [36:53]

Let's see, I have to make sure that I've got this selected. Perhaps use the Move, Drag command and drag this over until it snaps. And then if I wanted it to move up a similar distance, I could go and say press down on this and move the whole thing up, and type in the distance that I want. So in other words, instead of trying to do it in a complicated way in a single step, I can do it in a simple way in a series of three quick steps. And now it has got a 1 inch or that would be a 2 1/2 cm border or distance away from the corner there. Now, I want to put in a railing here, and of course later, I will want to stretch this to make sure it's the full length. But let me just get the railing going sideways. [37:44]

So I'll again go back to the Object tool, and this time I will switch my insertion, my graphic option, to say that I will rotate it right on the fly. So I'll just click, and as I do this I can rotate right on the fly and snap it to the guideline that ArchiCAD proposes, or use the Shift key to make sure that it's right on the axis. And I'll go with the Arrow tool, go to the corner and press down, and start to move in a single action which will give me the drag. And perhaps scroll over just a little bit. And remember I'm going to stretch the end from the midpoint. And I'm going to need to use the pet palette option to move just that one node rather than move the whole thing. And I'll snap it to one of these points that puts it in line with the wall. [38:34]

So let's take a look in 3D and see what we've got. And we'll see that it's starting to take shape, but there are some things that are little bit odd. Perhaps - and I'll take it out of the Orbit mode - perhaps I want to select this here, and I'd like to get the end post to the corner. So what I'll do is I noticed that there is a little diamond shaped hotspot, a magenta hotspot, I can press down and get it where I have a checkmark, press down. And in the editing palette, you'll see that there is the option to move just that one point. And it also gives me a little prompt saying handrail overhang on one side, and in this case it's thinking that it's the right side based on left and right for its orientation. And I'll bring this to the corner point here. [39:26]

And perhaps I'll do the same thing, I'll just pan down with the center mouse button, and I'll bring this other overhang, which it considers left side, over to the other end here. That looks better. And of course I'd need to do the same thing with this one. I'll go and select this other railing, press down on the corner, make sure that the pet palette is saying that I'm moving not the whole railing, but just the one point. And go and perhaps bring it off to the endpoint here. So when I hit the Esc key to deselect, we can see that it is looking definitely better. We do have a little bit of an issue, and that is the two handrails are passing through each other rather than mitering at the corner. [40:14]

So let's take a look at how we fix that. I'll go back to the floor plan and zoom in on this area. Pan over, and let's select one of the railings. Now you recall earlier that I said in order to stretch it, I needed to stretch the midpoint, because the corners did something else. And what they did was allowed me to

change the cutting angle. So I can change this to whatever I want. Of course, 45 would be a nice angle for meeting something perpendicular. So okay, that looks pretty good, except now it's a little long. So I have to change the length of it. So I'll press down on this endpoint here, and edit it so that it goes to where it intersects the other one. And see now, okay, that looks beautiful. [41:07]

Now visually, it looks great, but I do know from experience that the other one also needs to be adjusted. It's just not visually apparent at the moment, but in 3D we'd see it. So I'll go and again select the cutting angle on one side, make it match the 45, and then press down on end and stretch it back into position. And then I'll deselect, so that nothing is selected, so when I go back to 3D we can see that oh, look at that. It looks really nice in terms of the corner there. So now, to finish this off, we'll just need to stretch the railing the length of the balcony, and take this other railing and either recreate it or mirror a copy, so that the miter faces the correct direction over to the other side. [42:02]

So let me go back to the floor plan and show you a pretty quick and simple way to do that. I'll zoom out a little bit and scroll up and select again this railing. And zoom into a nice position. Again, I'll take the center point, press down, and stretch this up. This is a little bit in a way, so I'll snap it up. Now you see it says the length is 9 foot 10. So I'm pointing at the end, I want it to be 1 inch less. So I can just type in 9 feet 9. And if you're doing it metrically, of course you're going to just type in some amount less than going to the end that matches half the width of the railing. And I hit the Enter key. So you can see how very quickly it's in exactly the right position. [42:59]

Now the other railing, let me just go and we'll click this. I'll just pan down and I'll select it. I'll make sure before I click that it's hovering over and preselecting the object. So then when I click I get the right thing selected. And so here, this one I'm going to Mirror a Copy. So when I Mirror a Copy, I can right click in empty space or right click on the object itself, and in the Move menu, there's Mirror, and a little lower down there's Mirror a Copy. Let me just do it in empty space where you can see the same menu, but all of the control still on the screen. So Mirror a Copy. Now Mirror a Copy, we've done this before. Its saying, what is the first point of the mirroring axis? In other words, if we were to fold it on a piece of paper, where would it be? Well obviously, it would be the center point of the railing here. [43:56]

Now, I'm not exactly sure. There's a bunch of different snap points that I'm seeing there. I can make the guess. But I want to point out that sometimes you just do an arbitrary one. It's doesn't really matter. As long as when you click, you create things horizontally so it will mirror in a nice, straight line. Because it's easy enough after I've created this, if it's not in the right place, and sometimes it's just easier just to do it wrong, because then you can always go and grab this, tell it to move, and snap it right into position. So sometimes doing it in two steps is easier than trying to do it perfectly in one. So that looks great. We'll take this other railing here, and I will tell it to adjust this one point, which will adjust the cutting angle, and it's now a little bit too long. I have to pull this back. [44:54]

And so I'll pull it back until it snaps into position here, and that looks great. So let's take a look in 3D and zoom back out a little bit. So it looks pretty good, except two problems. One is that this railing, the overhang was reduced to bring it to the corner here. And I need to do the same thing at the other end. So I can zoom in a little bit and press down on this editable hotspot. And move this to the end here,

snapping it in position. And the other thing is that perhaps I need to have, at least in some cases, you might want to have more posts or different number of posts. So if I select that, or if it's already still selected, I can open up its settings. And while there are many things we could adjust under the structural dimensions there is number of posts. And I'll just change it from 3 to 5, and then click the OK button. And you can see, ah, beautiful. [46:01]

So let me zoom out to Fit in Window. And that looks pretty darn good. I'm happy with that. Let me just spin around with the Orbit and we'll take a reminder look of this. Okay, so we've got conditions that look pretty reasonable. Now that stair is quite steep, and we might need to make some adjustments. But if you think about it, in order to have the stair be less steep, we would either need to have a lower ceiling, and that's probably not going to make any sense, or we might need to push this whole wall out further in order to make room for it. And so that would be a major design change. For now, I'm going to accept this. And perhaps we take it to the city or to the structural engineer or someone else for review, and then see if we actually could make this work, if this would be acceptable. [46:58]

So let's just take a look at the whole model. I'll take it out of the Orbit mode and right click and say "Show All in 3D", so I can switch this right here in the 3D window and there we have the whole building. And I can rotate this around and you can see that it's now starting to look pretty well put together. Now there are always more things we could with a simple model. Of course making the walls have composite skins, where we'd see the drywall or gypsum board or cladding, as well as the framing space. Of course there's probably some foundation, perhaps stem walls and footings or slab on grade that we might want to put in. But for now, for our purposes here, the model is pretty good for the building itself. [47:58]

In one of the upcoming lessons, we'll take a look at creating some ground terrain to set the model in context. But we can finish up this lesson, and I think you'll agree that this model is looking fairly presentable. So this has been Eric Bobrow. This concludes our lesson on railings. Please add your comments and questions down below. Thanks for watching. [48:24]