QUICKSTART COURSE - MODULE 1 – PART 2

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Hello, this is Eric Bobrow, and in this section of the QuickStart course, we'll start up ArchiCAD. Here's ArchiCAD 14. And we'll actually build a little building and start exploring how ArchiCAD works in practice. So when we start up ArchiCAD, whatever version you've got, you'll see a dialog box similar to this. It allows you to create a new project or open a project. So if I click here, it allows you to browse for one or select a recent one. Right now we're going to create a new project. [0:37]

The best way to create a new project is to use a template, which provides the start up environment with all of the structure of a project that you need. The standard one that Graphisoft supplies usually has the name of the version, such as ArchiCAD 14 template, and ends in .TPL. And usually you don't have to worry about this because it's already in here, and the things that get added are ones that you've added yourself. So for now I will just say "Create a New Project". It automatically shows me the standard template. We don't need to worry about the work environment; it's going to be just fine. In most cases, you can just click on new. [1:17]

So when we click on new, what happens is it's actually reading that template file and then creating an untitled copy of it for us to work with. So here we have a blank project to work with. The only things that are drawn right now are some markers that indicate where elevations would be shown from. So for example, an elevation would be shown from the top of the screen or possibly the north position looking at the building in this general area. And I'm zooming in and out simply by rolling my mouse wheel in and out. [1:52]

Now to start out, I'm going to activate the Wall tool. So to activate a tool, you click once on it. And when you click on it, the Info Box will change to indicate the tool that's active. It will say "Default Settings", which means that it's the setting for the next wall or the next element that you're about to draw. When you have something selected, it will say "Selection Settings". So right now it's saying that I'm about to draw walls. They're on a certain layer or category, in this case for exterior walls. And they have other attributes which we'll be exploring shortly. [2:27]

Now the settings for height, for example, 10 feet, which would be about 3 m, and 9 inches thick which would be something like 250 mm, those are set from the last time the Wall tool was used, or the last time it was referred to in the template file. So generally, we can click on a tool and it will have a useful setting. We don't always have to go and modify it. We can simply rely on the fact that it's going to draw a wall that's similar to the last one. [2:59]

So when I want to draw a wall, I simply click and click again, and it's drawn a wall. Let me zoom in on it and we'll see that it's actually two parallel lines, with nice clean ends. When I click another two points, we'll see another wall, and it's automatically cleaning up that intersection. Now if I want to draw something straight, I can instead of just doing it in any arbitrary direction, I can look at the guide line. So that dashed line that you see is indicating that I'm on the axis line, in this case the X axis. And if I go up this way, you can see that the angel is 90°, and it's on the Y axis, going up and down. So I can draw something very easily straight, simply by allowing my mouse to stay close to that line. [3:50]

You'll notice as I move it from left to right it doesn't change until I get far enough away to leave the gravity range. When I bring it closer, its snaps into position. So I can know that I'm going straight. Now if I want to draw multiple walls, I can press down on the Geometry Options. This will be a single wall. This would be a chain or series of walls. So when I do that, and I click, and I'll just do it straight, I'll go right along the axis. And then I'll go up here and again snap to that. And do one more here. So I've done a series of three of them. Now they look like they're not going to clean up, but as soon as I click on this last point and extra time to say I don't need to go any further, you'll see that it cleans them all up very nicely. [4:37]

Another option is to draw a box of walls. So if I activate this option and go click somewhere, you'll notice that I don't have to go to the side and then up, I can just go on a diagonal. And it will allow me to draw a nice clean rectangular group of walls. And you'll notice that it's giving me some dimensional information. So I can move it around until I get it to be the size that I want. We'll be discussing entering your dimensional information later, but right now you can see that it says it's going in one direction 46 feet, which would be about 15 meters I guess. And in the other direction 32 feet, about 10 meters. And that is the current size of that box. [5:22]

Another geometry option that is commonly used is the rotated rectangle, where I click on two points, and the first two points determine the angle of the box. And then the other point will determine how long the other side is. So in this case, you can see that it's moving the box the length of the box out to 8 feet, not quite 3 meters in this direction, perpendicular to the original line. Now all of this that I've drawn here looks like just 2D linework. However, if I go and click on this button up here, it says "Open 3D Window", or F3, you can see the little icon that has a cube viewed from a 3D perspective. And you can see that here I'm looking at all of this stuff that I drew from slightly above, but actually in a perspective. You can see that there is foreshortening, and I can tell what's in the foreground and what's behind in part by its scale. [6:24]

Now if I press down to the right of this icon button, I'll see that I can switch to an axonometric view. And in an axonometric view, I'm actually then seeing this without foreshortening. And I can zoom out rolling the mouse wheel, and press down the center of the mouse wheel to pan over. And you can see how that works very nicely to allow me to see the information that I've got. To return to the floor plan, I'll click on the button just next to that, which is got a view of the plan. In this case, a very simplified representation of a floor plan. [7:15]

Now I can go back and forth easily by clicking between these, or you'll notice that there is a shortcut, F2,

and F3 listed. So if I hit F3, I go to 3D, and if I hit F2, I go to 2D. And I wasn't actually moving my mouse; I was just clicking on the keyboard. Now, if you're on an Apple computer, you can use these, but sometimes you have to change your system preferences to tell it that you don't want the Mac operating system to pick up the F keys directly, you want your application to pick those up. I will include a brief note on that in the notes below this video in case you need that help. [7:59]

So moving on, I don't really want to start with this mess, I really would like to go back and undo what I did. So you'll see there's a little icon button here that says "Undo Wall". And in fact, it undid the group of walls. I'll click it again, and it undoes the box of walls. And I can keep going, and you'll notice that as I hover over this, that it says "Command+Z" is the shortcut. On Windows it would be "CTRL+Z". So you hold down the shortcut key, Command or CTRL, and type the Z, and you can see I'm backing up step by step until, in this case, there's nothing left. [8:43]

Notice that there is a "Redo" option here, which has a shortcut "Command+Shift+Z". And I believe on Windows it would be "CTRL+Shift+Z". When I click on that, it will bring them all back one by one. So perhaps I can go back a few steps and say, "Whoops. I didn't mean to go back quite that far." So you can redo. You'll also notice that when you redo these elements that they are highlighted. There are handles, or grips, and they are in green, which are the colors set currently for highlighted elements. If you don't want them to be highlighted, if you don't want them to be selected, move your mouse around so that you not pointing at anything and simply click, and they will be deselected. [9:28]

So I'm just going to go back all the way to the beginning and hit Command+Z several times until I'm there. So now I'm going to go and draw a rectangle of a size that I'd like. So I'll go click, and you can see the dimension one as the longer dimension. It's actually always going to be horizontal. It could be longer or shorter. But dimension one is indicated and it's actually bold, just a little bit bolder than the one below it. That indicates that that field is ready for me to type in. So I'll say, "I'd like this to be 60 feet." So I'll type in "60". And if you're in the U.S., then when you put in a whole number it will assume that its feet. In international usage, whole numbers could be meters or centimeters or millimeters, depending on the preferences in the program. [10:29]

Sometimes it's good simply to draw, or gesture with your mouse, like I did, and see what ArchiCAD is showing you. Because then when you type in something, you'll know whether to type in, for example, this would be 20 meters approximately, but are you going to be typing in 20, or are you going to be typing in 2000 cm or 20,000 mm? Which one is it setup for? Now, I'm going to hit the Tab key on the keyboard and it will highlight the other value. And notice that it got a little bit longer. In other words, it moved the cursor and the building model to represent the 60 feet. So it accepted that. Now I can make the inches here, say for example, or the other dimension to be 35, but if I don't want it to be a whole number of feet, I can do 35-6, and that would give me a 35 feet 6 inches. [11:27]

So remember, in U.S. imperial measurement, the default is for a whole number to represent feet, and if you want inches, is you can either type in 8 in the inch side, which is the double quote mark, or you can type in 0-8. In this case, for feet and inches, I can do the very simple thing which is 35-6, or 35'6. If it's meters of course, you would be doing something like 15 meters or 1500 centimeters, etc. Now to finish

this, I can either click that little checkmark right here, or I can hit the Enter key on the keyboard. And you can see now it's drawn a box that was a little bit bigger than what it was originally gestured. [12:16]

To verify that it's the right distance, I can use the Measure tool. And I can go and move this around, and when I click on this corner, you'll see how it says "Oh, now you're starting your measurements from this point." And if I go along to here, and wait for the cursor to come back, oh. It's 60 feet. Exactly like what I wanted. And if I move it up to this point where I have a checkmark, the checkmark indicates that I'm right on a corner point. You'll see that it says 35'6", which is exactly what I chose. By the way, you'll notice that it's also shading in an area. And this Measure tool is giving me some information about the area that I'm covering, which would be half of this rectangle. In this case, it's also giving me a cumulative distance, which would be the perimeter. In this case those two lengths. [13:07]

Now if I click again I'm actually going to be able to continue this measurement. And I could get an area. Now, the whole thing, again, we're going 60 feet along the top. The perimeter on the three sides is 155 feet 6 and the area would be 2,130 feet. Now when I'm done with measuring, then I can simply go back up to the Measure tool and click on it, and that turns it off. So I can click to turn it on or click to turn it off. There's also a shortcut, the letter "M" will actually trigger it and turn it off as well. [13:46]

Now let's switch to the Door tool and put in a door. Now when I switch to a tool, as I said, it will pick up the default settings for that tool, the last settings that were in place. So many times it's ready to go right away. In this case it's ready with an entrance door of a fairly standard size, 3 feet by 6 feet. That would be just under 1 meter by 2 meters in height. Now if I click anywhere in space, and I'm clicking repeatedly, nothing happens because you can't put in a door in empty space. However, if I go to the edge of a wall, the cursor changes to this interesting symbol, this three line symbol, sometimes called the "Mercedes" symbol because it resembles the automobile manufacturer's trademark. [14:42]

So the Mercedes symbol says that I'm on the edge of an element that has a linear component, linear or arc component. And if I click, and I shall, you'll notice that the cursor changes and the appearance on screen changes. I now have a broken wall, because it's ready to put in a door in the position that I clicked. You'll notice that the cursor has changed to what we often call the eyeball. And I will move the eyeball up and over to the side. And this is indicating that I'm going to be placing the door in a certain orientation. So, I'm moving my mouse up and to the right because I would like the door to open upward onscreen, or into the building and swing open to the right. [15:36]

And I'll click. And you can see how it placed the door there. Now, if I do something similar, I'll just click to place the door, and I go up to the left, you'll see the door orients the other way. So we can easily orient the door inside or outside, left or right, swaying just simply by gesturing. Let's look at how we put in a window. So we'll switch to the Window tool. And again, it's set up for a window. We don't have to necessarily worry about it. Of course, in real design we're going to want to be specific and say what type of window it is and what size. But for now, let's just pop in a window and see what happens. [16:20]

So again, if I click an empty space, click, nothing happens. But if I go to the edge of the wall and click, it again gives me a similar cursor. Now, the cursor, in this case, I'd like to indicate the outside of the window. So generally when we put in windows, we're going to click, and after we make the initial click,

we'll click outside. Now let's take a look in 3D and see what we've got. So there you can see the two doors with some opening lines indicating which way they swing. And the window again, since it's a casement window, it also indicates its swing. [16:59]

I'm going to return back to the floor plan and just show you a couple of other things about the placement of doors and windows. Let's change the width of the window from 2 foot 6 say to 6 feet, so about 2 meters in width. And I'll click again, and you can see it's very easy to have windows of different sizes. Now, when I put in a window or a door, I can put it in by clicking on its center point. Or, I can decide I would like to specify where the corner point is, because sometimes that's more important or easier to place precisely. [17:42]

When we click with the corner point option, and I go here, the first click starts the process. But then I get this funny cursor that has two eyeballs. And you'll notice that as I move it around, nothing seems to happen here. But if I move it down, then it repositions the opening of the window. Now it hasn't actually decided yet, it's waiting for me to click. Sometimes you may be unclear what the heck is it expecting from me, what do I need to do. And I'll suggest that you look at the status bar. It says "Click for Window Door Location." So this status bar, somewhat similar to the command line in AutoCAD, except that you can't type in anything there. But it will give you a cue, or a clue, as to what you need to do. [18:34]

So depending upon whether this point supposed to be the bottom or the top of the window onscreen, I will click. And now it's determined that the opening is, in this case, below onscreen. The first click point. Then it says, "Which way is the window oriented?" You'll notice it says, "Click at one of the two window reveal orientations". So I'm going to click out here. So in the same way, if I go to the Door tool, and I switch to the corner insertion, when I click to place it - and by the way you can be either on the inside of the wall or the outside when you do this. So it says, "Do you want the door to - it's opening to be above the point or below it? Tell me which one". I'll click up above, and then again it gives us the cursor saying "What Orientation?" Or, "How is it going to swing?" [19:29]

And in this case I'll swing it into the building and down to the right. And you can see how that works. So again, when I go back to 3D, we'll see the new elements. And to navigate around and 3D we've already looked a little bit at zooming in and out by rolling the mouse wheel, and also pressing down the center mouse button and panning. Now, sometimes you'll want a look from a different angle on the building, and so we're going to need to use the Orbit tool. So the Orbit tool is this one here. It has a little symbol of a sort of rotational arrow, and when I click on it, it switches my cursor. So now when I press down, I can just grab the building and roll it around. And it will just keep on waiting for me to perhaps adjust this up or down fine tune it until I actually turn this orbit mode off. [20:34]

There's another way that you can get access to the Orbit mode, which is this same up near the 2D and 3D icons here. And here, it has a slightly different icon; it shows sort of a different building with the circle. But it's exactly the same thing. It does give you extra clue: to orbit, you can type the letter "O". So here I'm just orbiting, and I can turn it off again there, but I can also type "O". And then you see that it instantly brings that in mind. And when I type in "O" again, it turns that off. So I'll go back to the floor plan here. [21:12]

This concludes our QuickStart course lesson on starting to build the virtual building. Placing walls, doors and windows, and understanding some of the geometry and placement options available to you. Thanks for watching.

[END OF AUDIO]