Cluster/Pathway: Architectural Drawing & Design		EOPA: Autodesk Revit Architecture Certified User Skills		Test Provider: Certiport
EOPA Standard	% of	GA Pathway	Specific Competency, Topic or Skill	Instructional
	Assessment	Standard #		Materials/Resources

User Interface	AC-IDD-9	Demonstrate the knowledge and skills of computer operations.	
 Identify primary parts of the User Interface (UI).(Tabs, Application menu, Info Center, Ribbon, Elevation tag, Status bar. View control Bar 		 9.1 Demonstrate definitions and procedures for file management techniques: copying, deleting, finding, saving, and renaming, based on operating/applications systems. 9.2 Use an on-line help tutorial based on the application system. 9.3 Demonstrate the ability to open a drawing file and create a 	
 Name the key features of the ribbon. Define how a split button works. Demonstrate the three ways the ribbon can be displayed (Full ribbon, Min to Panel tiles, Min to tabs) demonstrate how to detach a panel and move it on the screen. 		drawing. 9.4 Identify and use all major components of hardware associated with a CAD system.	
 Describe the hierarchy in the project browser for a new project. 			
 Define what "Context" means when right clicking in the drawing window. 			
5. Name the tools found on the "Application Menu" (Save, Plot, Export and Print) or What tools are found on the "Application Menu"			
6. Demonstrate how to add items to the Quick Access Toolbar			
7. Describe why the "Option Bar" changes.			
8. Describe the function of the "Status Bar".			
9. Describe what hitting the escape key does.			
 Describe what double clicking on an elevation view marker does. 			
11. Demonstrate how to turn on/off the 3D Indicator			

13 14 15 16 17 18 File 1.	 Describe the functionality of the ViewCube. Describe what the home icon does. Demonstrate how to change the navigation bar opacity Describe how to zoom using the Navigation bar Describe the quickest way to zoom in or out Describe the quickest way to pan. e management Define the acronym "BIM" 	AC-IDD-9	Demonstrate the knowledge and skills of computer operations. 9.1 Demonstrate definitions and procedures for file management techniques: copying, deleting, finding, saving, and renaming,	
	and why it is important to Revit users.		based on operating/applications systems.	

Views	AC-IDD-10	Create and dimension single view drawings while applying	
1. Navigate and change views		geometric construction.	
using the control bar.		10.1 Produce geometric shapes such as straight lines, geometric	
2. Understand the view range		angles, plane figures, circles and arcs, and irregular geometric	
of plan views and be able to		figures.	
change it.		10.2 Demonstrate geometric construction techniques given size,	
3. Understand the purpose of		orientation, and location specifications.	
view templates.		10.3 Apply center lines to drawings in correct size and location.	
4. Change object visibility using		10.4 Apply correct dimensioning procedures.	
temporary hide, hide			
category, and hide element.	AC-IDD-11	Utilize orthographic projection to create and dimension multi-	
5. Create section views including		view drawings manually and using CADD.	
segmented ones.		11.1 Draw an object that is described with two views.	
6. Modify, crop, and place		11.2 Draw an object that is described with three views.	
elevation views on a sheet.		11.3 Select proper drawing scale, views, and layout.	
7. Create and navigate 3D views.		11.4 Draw an object that has an inclined surface.	
8. Create callouts for details.		11.5 Draw an object containing circles and arcs.	
9. Create and annotate a		11.6 Correctly identify views of an object.	
drafting view.		11.7 Create orthographic projections utilizing the necessary	
10. Use the section box to create		views	
a cutaway 3D view.			
11. Create a camera view and	AC-ADDI-6	Prepare elevations for residential drawings.	
modify its orientation.		6.1 Explain the purpose of elevations.	
12. Create and edit a		6.2 Sketch elevations.	
walkthrough.		6.3 Create elevation drawings with labels and dimensions to	
		include: root slope and overhang, type of rooting, door and	
		window location, and porches.	
		6.4 Demonstrate the use of Computer-Aided Design (CAD)	
		software related to preparing elevations for residential drawings.	
		Demonstrate annualing continue and dataile	
	AC-ADDII-5	5 1 Describe the purpose of sections and details.	
		5.1 Describe the purpose of sections and details.	
		dimonsions	
		5.3 Generate cabinet sections. Include labeling and dimensions	
		5.5 Generate building sections to include labeling and dimensions.	
		dimensions	
		5.5 Demonstrate the use of Computer-Aided Design (CAD)	
		software related to preparing sections and details	
		solutions and details.	
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 Levels Describe a story level. Describe a use of a non-story level. Understand how levels interact with intersecting views. Create new levels. Understand level properties and characteristics. 	AC-ADDI-6	 Prepare elevations for residential drawings. 6.1 Explain the purpose of elevations. 6.2 Sketch elevations. 6.3 Create elevation drawings with labels and dimensions to include: roof slope and overhang, type of roofing, door and window location, and porches. 6.4 Demonstrate the use of Computer-Aided Design (CAD) software related to preparing elevations for residential drawings. 	
 Walls 1. Describe how to place walls. 2. List options available when placing and modifying walls. 3. Create a floor to ceiling opening in given wall. 4. Demonstrate join on crossing wall elements 5. Create new wall style and add given materials. 	AC-ADDII-5	 Demonstrate preparing section and details. 5.1 Describe the purpose of sections and details. 5.2 Create a wall section to scale, including labeling and dimensions. 5.3 Generate cabinet sections. Include labeling and dimensions. 5.4 Generate building sections to include labeling and dimensions. 5.5 Demonstrate the use of Computer-Aided Design (CAD) software related to preparing sections and details. 	
Doors 1. Describe how to place doors. 2. Describe door options. 3. Edit existing doors. Use Align to position a door.	AC-ADDI-4 AC-ADDI-7	 Read and interpret plans 4.1 Read and interpret basic codes and symbols related to plumbing plans. 4.2 Apply plumbing symbols to a floor plan. 4.3 Demonstrate using Computer-Aided Design (CAD) software related to plumbing plans. Maintain a course portfolio. 7.1 Complete a set of residential house plans incorporating course standards (ongoing). 7.2 Report summary reflections on the design processes utilized throughout the course. 7.3 Report ancillary assignments created throughout the course necessary to demonstrate mastery of standards 	

 Windows Describe how to place windows. Describe window options. Edit existing windows. 	AC-ADDI-2	 Demonstrate and explain the preparation of site plans. 2.1 Research and describe general codes related to site planning. 2.2 Identify and restate topology and pertinent information on an existing site plan, including meridian arrow, contour lines, property lines, and utility mains. 2.3 Create a site plan for a building using correct symbols, including contour lines, property lines, utility mains, topographical features, and meridian arrow. 2.4 Demonstrate the use of Computer-Aided Design (CAD) software related to preparing site plans. 	
	AC-ADDI-4	 4.1 Read and interpret plans. 4.1 Read and interpret basic codes and symbols related to plumbing plans. 4.2 Apply plumbing symbols to a floor plan. 4.3 Demonstrate using Computer-Aided Design (CAD) software related to plumbing plans. 	

Components		Demonstrate and explain the preparation of site plans.	
1 List the types of components		2.1 Research and describe general codes related to site planning.	
available		2.2 Identify and restate topology and pertinent information on	
2 List options available when		an existing site plan, including meridian arrow, contour lines.	
2. List options available when		property lines, and utility mains.	
3 Describe how to move a		2.3 Create a site plan for a building using correct symbols.	
component to a different		including contour lines, property lines, utility mains,	
bost		topographical features, and meridian arrow.	
A Navigate to find component		2.4 Demonstrate the use of Computer-Aided Design (CAD)	
families and load them		software related to preparing site plans.	
5 Edit a family file and save			
S. Eart a family file and save.	AC-ADDI 4	Read and interpret plans.	
		4.1 Read and interpret basic codes and symbols related to	
		plumbing plans.	
		4.2 Apply plumbing symbols to a floor plan.	
		4.3 Demonstrate using Computer-Aided Design (CAD) software	
		related to plumbing plans.	
		Research roof systems, styles and terminology.	
	AC-ADDI-5	5.1 Recognize and compile various styles and constructions of	
		roof systems, including hip, gable, mansard, gambrel, shed, and	
		flat.	
		5.2 Identify and explain basic roofing terminology, including: rise,	
		run, slope, pitch, overhang, eave line, and ridge line.	
		5.3 Research and compare environmental and sustainability	
		issues in relation to roof design.	
		5.4 Assess aesthetics of roofs.	
		5.5 Demonstrate the use of Computer-Aided Design (CAD)	
		software related to problem solving roof systems.	
		Demonstrate and describe the preparation of electrical plans.	
	AC-ADDII-3	3.1 Interpret and explain basic codes and symbols related to	
		electrical plans, including: single-pole switches, three-way	
		switches, duplex receptacle outlets, recessed and fluorescent	
		lights, weatherproof switches and outlets, lighting distribution	
		panels, service panels, and junction boxes.	
		3.2 Prepare an electrical plan.	
		3.3 Demonstrate using Computer-Aided Design (CAD) software	
		related to preparing electrical plans.	

	AC-ADDII-4	 Read and Interpret plumbing plans. 4.1 Read and interpret basic codes and symbols related to plumbing plans. 4.2 Apply plumbing symbols to a floor plan. 4.3 Demonstrate using Computer-Aided Design (CAD) software related to plumbing plans. 	
Columns and Grids1. Identify the uses of a grid.2. Create an equally spaced grid pattern.	AC-ADDI-3	 Demonstrate architectural drafting skills. 3.1 Read and interpret existing architectural drawings. 3.2 Measure using an architect's and an engineer's scale. 3.3 Calculate volume and area related to architectural drafting. 	
 Lists the options available when placing and modifying grids. Place columns on grid. Lists the options available when placing and modifying columns. List the tools you can use to modify columns and grids. 	AC-ADDI-4	 Prepare residential floor plans. 4.1 Research and describe general codes related to floor plans. 4.2 Sketch to scale residential floor plans. 4.3 Draw dimensioned floor plans using appropriate symbols. 4.4 Apply appropriate dimensioning rules. 4.5 Incorporate aspects of sustainable and universal design. 4.6 Demonstrate the use of the Computer-Aided Design (CAD) software related to residential floor plans problem solving. 	
	AC-ADDI-6	 Prepare elevations for residential drawings. 6.1 Explain the purpose of elevations. 6.2 Sketch elevations. 6.3 Create elevation drawings with labels and dimensions to include: roof slope and overhang, type of roofing, door and window location, and porches. 6.4 Demonstrate the use of Computer-Aided Design (CAD) software related to preparing elevations for residential drawings. 	
	AC-ADDII-5	 Demonstrate preparing sections and details. 5.1 Describe the purpose of sections and details. 5.2 Create a wall section to scale, including labeling and dimensions. 5.3 Generate cabinet sections. Include labeling and dimensions. 5.4 Generate building sections to include labeling and dimensions. 5.5 Demonstrate the use of Computer-Aided Design (CAD) software related to preparing sections and details. 	

Stairs and Railings	AC-ADDI-2	Identify components related to the architectural design	
1. Set stair type.	-	process.	
2. Change Stair tread depth.		2.1 Describe the elements and principles of design.	
3 Add a stair		2.2 Research historical architectural styles.	
4 Set railing to rectangular		2.3 Explain the steps in the design process.	
5 Set railing properties		2.5 Identify and summarize elements of sustainable design.	
6 Add a railing		2.6 Interpret considerations of universal design.	
		Prepare residential floor plans.	
	AC-ADDI-4	4.1 Research and describe general codes related to floor plans.	
		4.2 Sketch to scale residential floor plans.	
		4.3 Draw dimensioned floor plans using appropriate symbols.	
		4.4 Apply appropriate dimensioning rules.	
		4.5 Incorporate aspects of sustainable and universal design.	
		4.6 Demonstrate the use of the Computer-Aided Design (CAD)	
		software 4.6 related to residential floor plans problem solving	
		software. 4.0 related to residential noor plans problem solving.	
		Demonstrate preparing sections and details.	
		5.1 Describe the purpose of sections and details.	
	AC-ADDII-5	5.2 Create a wall section to scale, including labeling and	
		dimensions.	
		5.4 Generate building sections to include labeling and	
		dimensions.	
		5.5 Demonstrate the use of Computer-Aided Design (CAD)	
		software related to preparing sections and details.	
		Create a project presentation for a building.	
	AC-ADDII-6	6.6 Generate a presentation using a virtual walk-through on a	
		house (optional dependent upon software capabilities).	
		6.7 Demonstrate the use of Computer-Aided Design (CAD)	
		software related to creating project presentations	

Roofs and Floors		Demonstrate and explain the preparation of site plans.	
	AC-ADDI-2	2.2 Identify and restate topology and pertinent information on	
		an existing site plan, including meridian arrow, contour lines	
2. Set the floor type. Create a		property lines, and utility mains	
floor.		2.2 Create a cite plan for a building using correct symbols	
		2.3 Create a site plan for a building using correct symbols,	
		including contour lines, property lines, utility mains,	
		topographical features, and meridian arrow.	
		2.4 Demonstrate the use of Computer-Aided Design (CAD)	
		software related to preparing site plans.	
	AC-ADDI-4	Prepare residential floor plans.	
		4.1 Research and describe general codes related to floor plans	
		4.2 Skotch to scale residential floor plans.	
		4.2 Sketch to scale residential hoor plans.	
		4.3 Draw uniterisioned hoor plans using appropriate symbols.	
		4.4 Apply appropriate dimensioning rules.	
		4.5 Incorporate aspects of sustainable and universal design.	
		4.6 Demonstrate the use of the Computer-Aided Design (CAD)	
		software.4.6 related to residential floor plans problem solving.	
		Research roof systems, styles and terminology,	
	AC-ADDI-5	5.1 Recognize and compile various styles and constructions of	
		roof systems including hin gable mansard gambrel shed and	
		flot	
		F 2 Identify and explain basic reafing terminology, including, rice	
		5.2 identity and explain basic rooting terminology, including: rise,	
		run, slope, pitch, overnang, eave line, and ridge line.	
		5.3 Research and compare environmental and sustainability	
		issues in relation to roof design.	
		5.4 Assess aesthetics of roots.	
		5.5 Demonstrate the use of Computer-Aided Design (CAD)	
		software related to problem solving roof systems.	
		Prepare elevations for residential drawings.	
	AC-ADDI-6	6.1 Explain the nurnose of elevations	
		6.2 Sketch elevations	
		6.2 Create elevations.	
		include: reaf clans and every hang type of reafing deer and	
		window location, and northers	
		window location, and porches.	
		6.4 Demonstrate the use of Computer-Aided Design (CAD)	
		software related to preparing elevations for residential drawings.	
		Demonstrate preparing foundation plans.	
		8.1 Explain the purpose of foundation plans.	

	AC-ADDI-8	 8.2 Identify different foundation systems and terminology, including: slab, crawl space, and basement. 8.3 Draw dimensioned foundation plans. 8.4 Demonstrate the use of Computer-Aided Design (CAD) software related to preparing foundation plans. 	
	AC-ADDII-5	 Demonstrate preparing sections and details. 5.1 Describe the purpose of sections and details. 5.2 Create a wall section to scale, including labeling and dimensions. 5.4 Generate building sections to include labeling and dimensions. 5.5 Demonstrate the use of Computer-Aided Design (CAD) configure related to proparing sections and details. 	
	AC-ADDII-6	 Create a project presentation for a building. 6.1 Research architectural presentations. 6.2 Prepare one-point and two-point perspectives of a building. 6.3 Create a rendering of a building. 6.4 Draw a set of plans to demonstrate comprehension of residential drawing and design standards. 6.5 Build a physical three-dimensional (3D) model based on researched architectural plans. 6.6 Generate a presentation using a virtual walk-through on a house (optional dependent upon software capabilities). 6.7 Demonstrate the use of Computer-Aided Design (CAD) software related to creating project presentations. 	
Sketching 1. Sketch geometry and profiles using all sketching tools. 2. Fillet Objects. 3. Trim objects. 4. Describe the benefits of using snaps 5. List the short cuts to toggle osnap on and off	AC-IDD-5	Create technical freehand sketches. 5.1 Demonstrate orthographic sketches. 5.2 Demonstrate pictorial sketches.	

Annotations	AC-IDD-6	Demonstrate proper lettering techniques.	
1 Add Model text to a Floor		6.1 Demonstrate vertical and/or inclined manual lettering.	
nlan		6.2 Create text using appropriate annotation commands,	
2 Add dimension to give floor		orientation, style, size, and placement in CAD.	
2. Add dimension to give noor			
	AC-IDD-8	Demonstrate the ability to read and draw proper scale.	
3. Add spot slope to root on		8.1 Demonstrate the ability to measure using the architect's	
given plan.		scale, engineer's scale, and metric scale.	
4. Add schedule tags		8.2 Select proper drawing scale.	
5. Tag untagged elements in			
given floor plan.	AC-ADDI-2	Identify components related to architectural process.	
		2.1 Describe the elements and principles of design.	
		2.2 Research historical architectural styles.	
		2.3 Explain the steps in the design process.	
		2.4 Analyze building sites.	
		2.5 Identify and summarize elements of sustainable design.	
		2.6 Interpret considerations of universal design.	
	AC-ADDI-3	Demonstrate architectural dratting skills.	
		3.1 Read and interpret existing architectural drawings.	
		3.2 Calculate volume and area related to architectural drafting	
		3.3 Calculate volume and area related to architectural draiting.	
		Prepare residential floor plans.	
	AC-ADDI-4	4.1 Research and describe general codes related to floor plans.	
		4.2 Sketch to scale residential floor plans.	
		4.3 Draw dimensioned floor plans using appropriate symbols.	
		4.4 Apply appropriate dimensioning rules.	
		4.5 Incorporate aspects of sustainable and universal design.	
		4.6 Demonstrate the use of the Computer-Aided Design (CAD)	
		software related to residential floor plans problem solving.	
	AC-ADDII-5	Demonstrate preparing sections and details	
		5.1 Describe the purpose of sections and details.	
		5.2 Create a wall section to scale, including labeling and	
		dimensions.	
		5.3 Generate cabinet sections. Include labeling and dimensions.	
		5.4 Generate building sections to include labeling and	
		dimensions.	
		5.5 Demonstrate the use of Computer-Aided Design (CAD)	
		software related to preparing sections and details.	

	AC-ADDII-6	 Create a project presentation for a building. 6.1 Research architectural presentations. 6.4 Draw a set of plans to demonstrate comprehension of residential drawing and design standards. 6.7 Demonstrate the use of Computer-Aided Design (CAD) software related to creating project presentations. 	
Schedules1. Create door schedule.2. Create window schedule3. Create room schedule.4. Add schedule tags.5. Add keynotes.	AC-ADDI-7 AC-ADDII-6	 Demonstrate preparing schedules. 7.1 Explain the purpose of schedules on a set of architectural drawings. 7.2 Generate the following schedules: window, door, and finish. 7.3 Demonstrate the use of Computer-Aided Design (CAD) software related to preparing schedules. Create a project presentation for a building. 6.4 Draw a set of plans to demonstrate comprehension of residential drawing and design standards. 6.7 Demonstrate the use of Computer-Aided Design (CAD) software related to creating project presentations. 	
Construction Document Sets 1. Create title sheet with sheet list.	AC-ADDI-9	Maintain a course portfolio. 9.1 Complete a set of residential house plans incorporating course standards (ongoing).	
 Create view/sheet sets for printing Place generic lights Set solar angle 	AC-ADDII-6	 Create a project presentation for a building. 6.1 Research architectural presentations. 6.2 Prepare one-point and two-point perspectives of a building. 6.3 Create a rendering of a building. 6.4 Draw a set of plans to demonstrate comprehension of residential drawing and design standards. 6.5 Build a physical three-dimensional (3D) model based on researched architectural plans. 6.6 Generate a presentation using a virtual walk-through on a house (optional dependent upon software capabilities). 6.7 Demonstrate the use of Computer-Aided Design (CAD) software related to creating project presentations. 	
	AC-ADDII-7	Maintain a course portfolio. 7.1 Complete a set of residential house plans incorporating course standards (ongoing).	