

Autodesk Revit Architecture Certified User Skills



Image courtesy of Arcmedia Ltd.

Welcome to the *Autodesk® Revit® Architecture Certified User Skills*. This document was designed to help educators and educational institutions teach Revit Architecture software skills. Created using valuable input from Project Lead the Way and other respected educators and designers, it sets forth important skill standards for developing a high-quality user certification exam and curriculum resources.

The Revit Architecture Certified User Skills serves to standardize the core competencies for fundamental-level instruction with Autodesk Revit Architecture for a two-semester class and provides a content framework and reference guide for the Autodesk® Revit® Architecture Certified User exam.

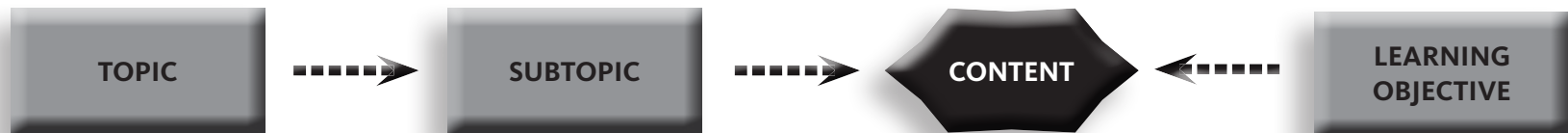


**TIP:** Although this document is designed to facilitate teacher-led courses and lessons, it may also be referenced for self-paced learning through the use of the Autodesk® Digital STEAM Workshop and the Autodesk Digital STEAM Workshop.

## Using This Document

This easy-to-read document lists industry-specific topics pertaining to a function or feature set of Autodesk Revit Architecture software. Topics are organized into three substructures logically sequenced for classroom presentation:

- **Topic:** A standard functional subject area and/or feature set available in Autodesk Revit Architecture software.  
Example: Views
- **Subtopic:** A subtopic provides more detail on the topics and what the topics support.  
Example: View Types
- **Content:** The content provides more detail about the subtopic and what should be taught and learned.  
Example: Elevations
- **Learning Objective:** The learning objective exemplifies what the student is expected to understand.  
Example: Modify, crop, and place elevation views on a sheet.



## Autodesk Revit Architecture Certified User Digital Study Packet

The Autodesk Revit Architecture Certified User Digital Study Packet is a digital learning resource that provides students with a library of short videos based on the Revit Architecture Certified User Skills. The study packet covers the basic techniques required to become familiar with the software and get hands-on quickly.



**TIP:** Teachers can leverage the study packets in conjunction with the Autodesk Digital STEAM Workshop or their own curriculum to help their students build their software skills.

## Autodesk Digital STEAM Workshop

The Autodesk Digital STEAM Workshop provides teachers and students with a highly visual story-based curriculum created to promote design innovation and creative problem-solving through science, technology, engineering, arts, and math (STEAM). The curriculum is structured as a framework for learning software through project-based content based on engaging real-world industry projects that build gradually in difficulty, offering students a chance to achieve small successes as they build their technical skills.



**TIP:** Using the Autodesk Revit Architecture Certified User Skills as benchmarks, teachers can measure a student's progress as they work through the skills-building projects offered in the Autodesk Digital STEAM Workshop.

## Feedback

We welcome your feedback on the *Revit Architecture Certified User Skills*. Please email us at [digitalSTEAM@autodesk.com](mailto:digitalSTEAM@autodesk.com).





Audobon Center photo courtesy of Eric D. Lipschutz

| Industry Specific Topic | Sub-Topic                        | Content  | Examples of Learning Objective   | Reference            |
|-------------------------|----------------------------------|--|--|----------------------|
| User Interface          |                                  |  |  |                      |
|                         | <b>Definitions</b>               |  |  |                      |
|                         |                                  | UI Features: Autodesk Revit window, graphics window, the ribbon, project browser, and the context (right-click) menus. | Identify primary parts of the User Interface (UI). (Tabs, Application menu, Info Center, Ribbon, Elevation tag, Status bar, View control Bar   |                      |
|                         | <b>UI Navigation/Interaction</b> |  |  |                      |
|                         |                                  | Ribbon > Panels > Tabs   | 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. | User Interface       |
|                         |                                  | Project Browser  | Describe the hierarchy in the project browser for an new project.  | Project Browser      |
|                         |                                  | Context (right-click menus)  | Define what "Context" means when right clicking in the drawing window.   |                      |
|                         |                                  | Application Menu   | Name the tools found on the "Application Menu" ( Save, Plot, Export and Print) or What tools are found on the "Application Menu"   | Application Menu     |
|                         |                                  | Quick Access toolbar   | Demonstrate how to add items to the Quick Access Toolbar   | Quick Access Toolbar |
|                         |                                  | Options Bar  | Describe why the "Option Bar" changes.   | Options Bar          |
|                         |                                  | Status Bar   | Describe the function of the "Status Bar".   | Status Bar           |
|                         |                                  | Esc> Escape key  | Describe what hitting the escape key does.   |                      |
|                         | <b>Drawing Window</b>            |  |  |                      |
|                         |                                  | Elevation Marker   | Describe what double clicking on a elevation view marker does.   | Drawing Area         |
|                         |                                  | Origin 3D Indicator  | Demonstrate how to turn on/off the 3D Indicator  |                      |
|                         | View Control Bar                 | Demonstrate how to change the view scale.  | View Control Bar   |                      |

| Industry Specific Topic | Sub-Topic                          | Content  | Examples of Learning Objective                                   | Reference                                     |
|-------------------------|------------------------------------|--|--|---|
| <b>User Interface</b>   |                                    |  |  |   |
|                         | <b>Navigation Control</b>          |  |  |   |
|                         |                                    | 3D View Icon on QAT  | Describe the functionality of the ViewCube.                      |   |
|                         |                                    | ViewCube   | Describe what the home icon does.                                |   |
|                         | <b>Zoom</b>                        |  |  |   |
|                         |                                    | Navigation bar   | Demonstrate how to change the navigation bar opacity.            | <a href="#">Navigation Bar</a>                |
|                         |                                    |  | Describe how to zoom using the Navigation bar                    |   |
|                         |                                    | Zoom In/out  | Describe the quickest way to zoom in or out                      |   |
|                         |                                    | Pan  | Describe the quickest way to pan.                                |   |
| <b>File Management</b>  |                                    |  |  |   |
| <b>Definitions</b>      |                                    |  |  |   |
|                         |                                    | BIM  | Define the acronym "BIM" and why it is important to Revit users. | <a href="#">Building Information Modeling</a> |
|                         |                                    | Template   | Define a template file.  | <a href="#">Project Templates</a>             |
|                         | <b>Project Files</b>               |  |  |   |
|                         |                                    | .rvt> Determine paper size and scales for various projects | Identify the file extension of a project file.                   |   |
|                         |                                    | .rte>Create Template File for later project usage.         | Identify the file extension of a template file.                  |   |
|                         |                                    | .rfa   | Identify the file extension of a Revit family file.              |   |
|                         | <b>Open existing Revit project</b> |  |  |   |
|                         |                                    | Recent File window   |  | <a href="#">Recent Files</a>                  |
|                         |                                    | Projects>Open  | Demonstrate how to open a Revit file.                            | <a href="#">Open a Revit Project File</a>     |
|                         |                                    | Application Menu>Open Documents (Icon)                     |  |   |

| Industry Specific Topic | Sub-Topic                          | Content                          | Examples of Learning Objective  | Reference                                    |
|-------------------------|------------------------------------|----------------------------------|---|--|
| <b>File Management</b>  |                                    |                                  |   |  |
|                         | <b>Create new Revit project</b>    |                                  |   |  |
|                         |                                    | Application Menu>New>Project     | Demonstrate how to create a new Revit project folder and file.                  | <a href="#">Creating a Project</a>           |
|                         |                                    | Set up Drawing units             | Change to a metric drawing  | <a href="#">Project Units</a>                |
|                         |                                    | Add project information          | Add project information to new drawing set.                                     | <a href="#">Project Information</a>          |
|                         |                                    | Change system settings           | Create new dimension style, change arrows to architectural tick(oblique's)      | <a href="#">Temporary Dimension Settings</a> |
|                         | <b>Save</b>                        |                                  |   |  |
|                         |                                    | Pick on disk icon on QAT.        |   | <a href="#">Saving Revit Files</a>           |
|                         |                                    | Application Menu - Save, Save as | Name the three file types that can be saved while in a open drawing.            |  |
| <b>Views</b>            |                                    |                                  |   |  |
|                         | <b>View control and properties</b> |                                  |   |  |
|                         |                                    | View control and properties      | Navigate and change views using the control bar.                                | <a href="#">View Controls</a>                |
|                         |                                    | View Range                       | Understand the view range of plan views and be able to change it.               | <a href="#">View Templates</a>               |
|                         |                                    | View templates                   | Understand the purpose of view templates.                                       | <a href="#">View Range</a>                   |
|                         |                                    | Object visibility                | Change object visibility using temporary hide, hide category, and hide element. | <a href="#">Temporary Hide</a>               |
|                         | <b>View Types</b>                  |                                  |   |  |
|                         |                                    | Sections                         | Create section views including segmented ones.                                  | <a href="#">Section Views</a>                |
|                         |                                    | Elevations                       | Modify, crop, and place elevation views on a sheet.                             | <a href="#">Elevation Views</a>              |
|                         |                                    | 3D views                         | Create and navigate 3D views.   | <a href="#">3D Views</a>                     |
|                         |                                    | Callouts and Detail Views        | Create callouts for details.  | <a href="#">Callout Views</a>                |
|                         |                                    | Drafting views                   | Create and annotate a drafting view.  | <a href="#">Drafting Views</a>               |
|                         |                                    | Section box                      | Use the section box to create a cutaway 3D view.                                | <a href="#">Section Box</a>                  |

| Industry Specific Topic | Sub-Topic                 | Content                      | Examples of Learning Objective                               | Reference                                 |
|-------------------------|---------------------------|------------------------------|--|---|
| <b>Views</b>            |                           |                              |  |   |
|                         | <b>Cameras</b>            |                              |  |   |
|                         |                           | Camera                       | Create a camera view and modify its orientation.             | <a href="#">Cameras</a>                   |
|                         |                           | Walkthroughs                 | Create and edit a walkthrough.                               | <a href="#">Walkthroughs</a>              |
| <b>Levels</b>           |                           |                              |  |   |
|                         | <b>Definitions</b>        |                              |  |   |
|                         |                           |                              | Describe a story level. Describe a use of a non-story level. | <a href="#">Levels</a>                    |
|                         |                           | Using and controlling levels | Understand how levels interact with intersecting views.      |   |
|                         |                           | Making new levels            | Create new levels.   | <a href="#">Adding Levels</a>             |
|                         |                           | Level characteristics        | Understand level properties and characteristics.             | <a href="#">Level Properties</a>          |
| <b>Walls</b>            |                           |                              |  |   |
|                         | <b>Home Tab &gt; Wall</b> |                              |  |   |
|                         |                           |                              | Describe how to place walls.                                 | <a href="#">Placing Walls</a>             |
|                         | <b>Options Bar</b>        |                              |  |   |
|                         |                           | Height                       | List options available when placing and modifying walls.     |   |
|                         |                           | Location Line                |  |   |
|                         |                           | Chain                        |  |   |
|                         |                           | Offset                       |  |   |
|                         |                           | Radius                       |  |   |
|                         | <b>Openings</b>           |                              |  |   |
|                         |                           | Create opening in a wall     | Create a floor to ceiling opening in given wall.             | <a href="#">Openings in Walls</a>         |
|                         | <b>Join</b>               |                              |  |   |
|                         |                           | Join crossing walls          | Demonstrate join on crossing wall elements                   | <a href="#">Join Wall Cleanup Options</a> |
|                         | <b>Materials</b>          |                              |  |   |
|                         |                           | Modify walls                 | Create new wall style and add given materials.               | <a href="#">Materials</a>                 |



| Industry Specific Topic | Sub-Topic                   | Content                    | Examples of Learning Objective                     | Reference                       |                             |
|-------------------------|-----------------------------|----------------------------|--|---------------------------------|-----------------------------|
| <b>Doors</b>            |                             |                            |  |                                 |                             |
|                         | <b>Home Tab &gt; Door</b>   |                            |  |                                 |                             |
|                         |                             |                            | Describe how to place doors.                       | <a href="#">Placing Doors</a>   |                             |
|                         | <b>Options Bar</b>          |                            |  |                                 |                             |
|                         |                             | Vertical/Horizontal        |  | Describe door options.          |                             |
|                         |                             | Tag on Placement           |  |                                 | <a href="#">Door Tags</a>   |
|                         |                             | Leader                     |  |                                 |                             |
|                         |                             | Leader attachment distance |  |                                 |                             |
|                         | <b>Model in place</b>       |                            |  |                                 |                             |
|                         |                             |                            | Edit existing doors. Use Align to position a door. |                                 |                             |
|                         | <b>Windows</b>              |                            |  |                                 |                             |
|                         | <b>Home Tab &gt; Window</b> |                            |  |                                 |                             |
|                         |                             |                            | Describe how to place windows.                     | <a href="#">Placing Windows</a> |                             |
|                         | <b>Options Bar</b>          |                            |  |                                 |                             |
|                         |                             | Vertical/Horizontal        |  | Describe window options.        |                             |
|                         |                             | Tag on Placement           |  |                                 | <a href="#">Window Tags</a> |
|                         |                             | Leader                     |  |                                 |                             |
|                         |                             | Leader attachment distance |  |                                 |                             |
|                         | <b>Model in place</b>       |                            |  |                                 |                             |
|                         |                             |                            | Edit existing windows.                             |                                 |                             |

| Industry Specific Topic  | Sub-Topic                      | Content                              | Examples of Learning Objective                        | Reference  |
|--------------------------|--------------------------------|--------------------------------------|---|--|
| <b>Component</b>         |                                |                                      |   |  |
|                          | <b>Home Tab &gt; Component</b> |                                      |   |  |
|                          |                                | Component Types                      | List the types of components available.               | <a href="#">Components</a>                           |
|                          | <b>Options Bar</b>             |                                      |   |  |
|                          |                                |                                      | List options available when placing a component.      | <a href="#">Placing Components</a>                   |
|                          | <b>Component Host</b>          |                                      |   |  |
|                          |                                |                                      | Describe how to move a component to a different host. | <a href="#">Moving Components to Different Hosts</a> |
|                          | <b>Families</b>                |                                      |   |  |
|                          |                                | Load a Family                        | Navigate to find component families and load them.    | <a href="#">Loading Families</a>                     |
|                          | Edit a Family                  | Edit a family file and save.         | <a href="#">Family Editor</a>                         |  |
| <b>Columns and Grids</b> |                                |                                      |   |  |
|                          | <b>Definitions</b>             |                                      |   |  |
|                          |                                | Grid uses                            | Identify the uses of a grid.                          | <a href="#">Grids</a>                                |
|                          | <b>Home Tab &gt; Grid</b>      |                                      |   |  |
|                          |                                | Grid properties and characteristics. | Create an equally spaced grid pattern.                | <a href="#">Adding Grids</a>                         |

| Industry Specific Topic    | Sub-Topic                           | Content   | Examples of Learning Objective                                  | Reference                          |
|----------------------------|-------------------------------------|---|---|------------------------------------|
| <b>Columns and Grids</b>   |                                     |   |   |                                    |
|                            | <b>Grid Properties</b>              |   |   |                                    |
|                            |                                     |   | Lists the options available when placing and modifying grids.   | <a href="#">Grid Properties</a>    |
|                            | <b>Home Tab &gt; Column</b>         |   |   |                                    |
|                            |                                     | Column properties and characteristics.                  | Place columns on grid.  | <a href="#">Adding Columns</a>     |
|                            | <b>Column Properties</b>            |   |   |                                    |
|                            |                                     |   | Lists the options available when placing and modifying columns. | <a href="#">Column Properties</a>  |
|                            | <b>Modify</b>                       |   |   |                                    |
|                            |                                     | List the tools you can use to modify columns and grids. | <a href="#">Modifying Columns</a>                               |                                    |
| <b>Stairs and Railings</b> |                                     |   |   |                                    |
|                            | <b>Stair Types and Properties</b>   |   |   |                                    |
|                            |                                     | Stair types   | Set stair type.   | <a href="#">Stairs</a>             |
|                            |                                     | Stair properties  | Change Stair tread depth.                                       | <a href="#">Stair Properties</a>   |
|                            | <b>Stair Placement Options</b>      |   |   |                                    |
|                            |                                     | Stair placement   | Add a stair.  | <a href="#">Stairs</a>             |
|                            | <b>Railing Types and Properties</b> |   |   |                                    |
|                            |                                     | Railing types   | Set railing to rectangular.                                     | <a href="#">Railings</a>           |
|                            |                                     | Railing properties                                      | Set railing properties.   | <a href="#">Railing Properties</a> |
|                            | <b>Railing Placement Options</b>    |   |   |                                    |
|                            |                                     | Railing placement                                       | Add a railing.  | <a href="#">Adding a Railing</a>   |

| Industry Specific Topic | Sub-Topic                          | Content  | Examples of Learning Objective                          | Reference                                |
|-------------------------|------------------------------------|--|---|--|
| <b>Roofs and Floors</b> |                                    |  |   |  |
|                         | <b>Roof Types and Properties</b>   |  |   |  |
|                         |                                    | Roof by foot print, extrusion, face            | Create a roof.  | <a href="#">Creating a Roof</a>          |
|                         |                                    | Roof properties                                |   | <a href="#">Roof Properties</a>          |
|                         | <b>Roof Elements</b>               |  |   |  |
|                         |                                    | Fascia, Soffit, Gutter                         |   | <a href="#">Adding Elements to Roofs</a> |
|                         | <b>Floors Types and Properties</b> |  |   |  |
|                         |                                    | Sloped and tapered                             | Set the floor type. Create a floor.                     | <a href="#">Floors</a>                   |
| <b>Sketching</b>        |                                    |  |   |  |
|                         | <b>Geometry</b>                    |  |   |  |
|                         |                                    | Lines, Arcs, Polygons, Rectangles              | Sketch geometry and profiles using all sketching tools. | <a href="#">Sketching</a>                |
|                         | <b>Fillet, Trim</b>                |  |   |  |
|                         |                                    | Fillet   | Fillet Objects.   | <a href="#">Fillet</a>                   |
|                         |                                    | Trim   | Trim objects.   | <a href="#">Trim</a>                     |
|                         | <b>Snaps</b>                       |  |   |  |
|                         |                                    | Snaps, Tab Cycle, Short cuts                   | Describe the benefits of using snaps                    | <a href="#">Snaps</a>                    |
|                         |                                    | List the short cuts to toggle osnap on and off | <a href="#">Object Snaps and Snap Shortcut Keys</a>     |  |

| Industry Specific Topic           | Sub-Topic  | Content                                    | Examples of Learning Objective                             | Reference                           |
|-----------------------------------|--|--|--|-------------------------------------|
| <b>Annotations</b>                |  |  |  |                                     |
|                                   | <b>Text</b>                                      |  |  |                                     |
|                                   |  | Add text                                   | Add Model text to a Floor plan                             | <a href="#">Adding Text Notes</a>   |
|                                   | <b>Dimensions</b>                                |  |  |                                     |
|                                   |  | Add dimensions                             | Add dimension to give floor plan. Label given wall section | <a href="#">Dimensions</a>          |
|                                   |  | Add spot elevation                         | Add spot slope to roof on given plan.                      | <a href="#">Spot Elevations</a>     |
|                                   | <b>Tags</b>                                      |  |  |                                     |
|                                   |  | Add tags                                   | Add schedule tags  | <a href="#">Add Tags</a>            |
|                                   | Apply tags to untagged elements in one operation | Tag untagged elements in given floor plan. | <a href="#">Tag All Not Tagged</a>                         |                                     |
| <b>Schedules</b>                  |  |  |  |                                     |
|                                   | <b>Schedule Types</b>                            |  |  |                                     |
|                                   |  | Door                                       | Create door schedule                                       | <a href="#">Schedules</a>           |
|                                   |  | Window                                     | Create window schedule                                     |                                     |
|                                   |  | Room                                       | Create room schedule                                       |                                     |
|                                   | <b>Legends</b>                                   |  |  |                                     |
|                                   |  | Add Legend Components                      | Add schedule tags  | <a href="#">Legends</a>             |
|                                   | <b>Keynotes</b>                                  |  |  |                                     |
|                                   | Add keynotes                                     | Add keynotes.                              | <a href="#">Keynotes</a>                                   |                                     |
| <b>Construction Document Sets</b> |  |  |  |                                     |
|                                   | <b>Sheet Set up</b>                              |  |  |                                     |
|                                   |  | Title sheet                                | Create title sheet with sheet list.                        | <a href="#">Title Sheet</a>         |
|                                   | <b>Printing</b>                                  |  |  |                                     |
|                                   |  | View/Sheet Sets                            | Create view/sheet sets for printing                        | <a href="#">View and Sheet Sets</a> |
|                                   |  | Print in scale. Print with percentage      |  | <a href="#">Print</a>               |
|                                   | <b>Rendering</b>                                 |  |  |                                     |
|                                   |  |  |  | <a href="#">Rendering</a>           |
|                                   | Interior - Lights                                | Place generic lights                       | <a href="#">Lights</a>                                     |                                     |
|                                   | Exterior - Setup                                 | Set solar angle                            | <a href="#">Solar Studies</a>                              |                                     |



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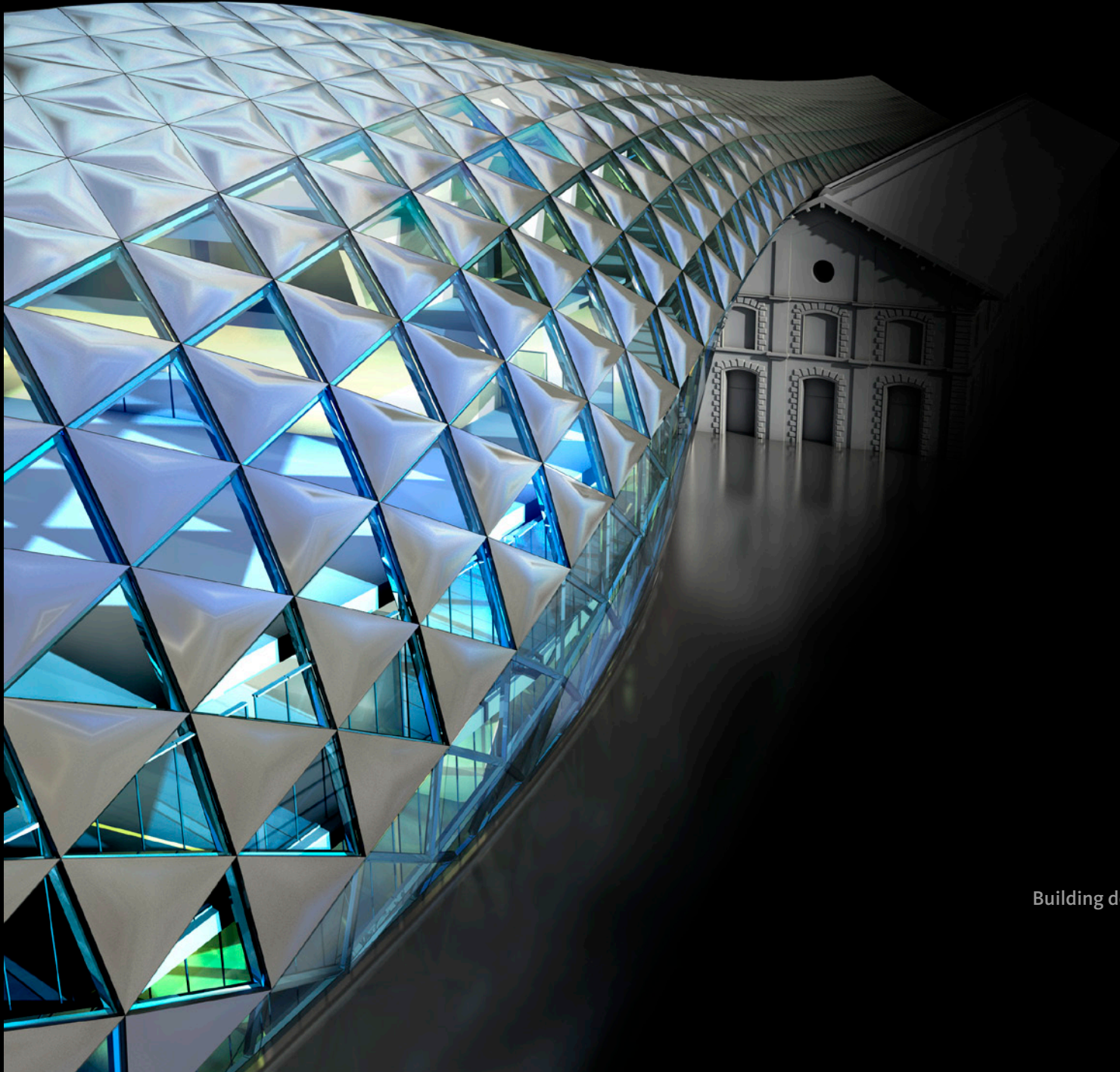
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