

## Revit® Advanced: Custom Family Creation for Architecture

This advanced course is designed for experienced Revit users ready to break free from default content and unlock maximum design flexibility. The primary objective is to expand your knowledge base in creating custom systems, in-place, and component families. By mastering these advanced modeling techniques, you'll be able to accurately represent unique or custom design elements that are essential for high-end or specialized architectural projects.

**Prerequisite:** A working knowledge of Essentials/fundamental Revit techniques is essential. Participants should be proficient in the core skills taught in any discipline's introductory Revit course, including creating, modifying, and viewing typical model elements.

**Course Length:** 1 day

### Key Learning Objectives:

- **System Customization:** Create and modify bespoke wall, roof, and floor types to meet specific project layering and material requirements.
- **Parametric Family Mastery:** Setup, model, and refine component family (.RFA) files by building a powerful parametric framework and generating various family types (sizes, styles).
- **Detailing and Control:** Control the visibility of components within the project and incorporate advanced items like nested families, controls, and instance parameters.
- **Specialized Modeling:** Develop and utilize various non-standard family types, including in-place models, profiles, and custom annotations.

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## Course Outline:

### Revit Family Classification

Learn to distinguish between and utilize the three primary categories of Revit families

- System Families (e.g., walls, floors)
- Loadable Families (e.g., doors, equipment)
- In-Place Families (unique, project-specific geometry)

### Mastering Custom System Families

Learn to define and construct core building elements to precise specifications, moving beyond default content.

- **Creating Custom Assemblies:** Define unique layer compositions for wall, roof, floor, and ceiling types.
- **Complex Wall Detailing:** Construct vertically compound walls and implement advanced techniques like stacked and embedded walls.

### Component Family Fundamentals

Dive into the Family Editor to create intelligent, reusable content (.RFA files).

- **Family Setup:** Introduce the process of creating component families.
- **Parametric Control:** Master defining the essential parametric framework using reference planes, dimensions, and formulas.
- **Modeling and Types:** Create complex family geometry and establish multiple family types (variations in size, material, or function).

### Advanced Family Detailing and Control

Refine component behavior and appearance for real-world project usage.

- **Refining Family Tools:** Utilize additional family tools for specialized geometry and constraints.
- **Visibility Control:** Configure Visibility/Graphic Overrides to ensure components display correctly at different levels of detail or in specific views.

### Specialized and Project-Specific Content

Learn to model non-standard elements and manage data flow using advanced techniques.

- **Non-Standard Families:** Create 2D detail families and line-based families for efficient annotation and layout.
- **In-Place Modeling:** Develop in-place families for unique, single-use project geometry.
- **Data Management:** Implement and work with Shared Parameters for custom tagging, scheduling, and firm-wide data standards.

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