COURSE SYLLABUS

BIM Certificate Program

Gain expertise in Building Information Modeling (BIM) with Revit Architecture to create 3D models for commercial building projects. This hands-on program teaches you the technical skills and workflows for BIM while preparing you for a successful career.

Group classes (Live Online) and onsite training are available for this course. For more information, email partnerships@vdci.edu or visit: https://vdci.edu/certificates/bim-certificate-program



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Course Outline

This package includes these courses

- Intro to Revit Course Online (30 Hours)
- Intermediate Revit Course Online (30 Hours)
- BIM Construction Documents I Course Online (30 Hours)
- BIM Construction Documents II Course Online (30 Hours)
- BIM Construction Documents III Course Online (30 Hours)
- BIM Detailing Course Online (20 Hours)
- BIM Certificate Elective Courses (80 Hours)
- BIM Capstone Project (60 Hours)

Intro to Revit Course Online

In this beginner-friendly course, you'll dive into how Revit (BIM) links all your project information using the Revit Architecture tools. You'll learn how to design 3D models that automatically generate 2D architectural drawings, including floor plans, elevations, and 3D perspective views. Starting with a pre-made template, you'll build a Building Information Model, create floor plans and elevations, generate 3D views, place them on sheets, and print them to PDF.

- Describe Primary Revit Concepts and how they relate to Building Information Modeling (BIM).
- Explore the Revit User-Interface.
- Design a 3D building model to explain how information is interrelated
- Determine the appropriate workflow to complete tasks within Revit.
- Develop a project that includes floors, walls, ceilings, stairs, curtain walls, and roof design to strengthen 3D modeling and 2D documentation skills.
- Create presentation-level architectural graphics.
- Catalog building information using schedules.

Intermediate Revit Course Online

In this intermediate BIM class, you'll learn advanced Revit techniques for documenting projects, including scheduling components, creating 2D/3D families, refining graphics, and making a streamlined construction document set. You'll also build on an existing model, explore design options, create custom schedules, and develop custom Revit families. By the end, you'll turn a conceptual model into a complete, integrated construction document set.

- Integrate DWG Files to create Revit details.
- Tag elements for cost estimation and material take-offs.
- Explore the capabilities of design options and how to present different options.
- Create 3D parametric families.
- Build customized door, material, and room schedules that can be used for construction take-offs.
- Explore BIM project management techniques to keep models efficient and user-friendly.

BIM Construction Documents I Course Online

This online Revit course is the first of three focused on creating construction documents. You'll model a single-story commercial building, import AutoCAD drawings, create a site model, and then add a two-story extension, simulating real-world AEC workflows. The course covers advanced Revit techniques for commercial projects, led by an Autodesk Certified Instructor with experience in commercial, medical, and biotech design.

- Using BIM tools to model existing buildings, partial demolition, and new constructions.
- Creating site plans with topography, hardscape, and landscaping.
- Differentiating construction phases through graphics.
- Producing presentation-quality renderings for documentation.

BIM Construction Documents II Course Online

In this intermediate course, you'll create construction documents for the commercial building and site created in BIM Construction Documents I. You'll also create the sheet drawings and will add keynotes, detail drawings, and schedules.

- Prepare a set of architectural construction documents incorporating the site and building models created in BIM Construction Documents I.
- Develop progress sets of construction documents, reflecting 30/60/90/100 percent deliverable submittals.
- Produce plan, section, and elevation views of the project for sheet layout.
- Keynote elements of the project model. Develop schedules and a limited number of architectural details extracted from the BIM model.

BIM Construction Documents III Course Online

This advanced BIM construction documents course covers both residential and commercial projects, helping you develop skills for creating floor plans, elevations, and 3D perspectives. You'll learn to create detailed 3D building models and generate professional 2D architectural drawings using Revit.

- Create and place graphic-symbol and material legends; standardize view titles and sheet presentation
- Dimension exterior/interior plans consistently, add partition schedules, and apply wall types per intent
- Add and manage keynotes across plans, elevations, sections, and the roof—using a shared keynote table
- Develop enlarged plans and interior elevations with coordinated tags, dimensions, and view templates
- Set up phasing for tenant-fit layouts; QC, revision-cloud/tag sheets, and export a scaled PDF set for midterm and final

BIM Detailing Course Online

Master the art of creating detailed construction drawings that ensure structural integrity, safety, and design clarity. This course focuses on developing your skills in Revit to create comprehensive building system details and manage them according to industry standards.

- Create detail drawings of building systems which illustrate structural integrity and sound building construction practices.
- Create and integrate detail drawings which limit or prevent accidental injury or death among users of the buildings.
- Prepare detail drawings illustrating construction systems, products, and finishes.
- Develop details and manage the detail information to conform with project-based lineweight and National CAD/BIM standards.

BIM Certificate Elective Courses

Select 60-80 clock hours of elective courses to complement your BIM Certificate Program training. You can specialize in Revit MEP, Revit Structure, or SketchUp Pro.

BIM Capstone Project

Throughout this BIM Certificate Program, you will complete a final capstone project that will serve as a comprehensive showcase of your skills and knowledge:

- Apply your understanding of Building Information Modeling (BIM) by creating a fully integrated BIM model for a real-world construction project of your choice.
- Use industry-standard software such as Revit, to model, visualize, and analyze building systems, ensuring accuracy and efficiency in your design.
- Document your process, from initial design to the final BIM model, and present your project in a professional construction document that is ready to share in your portfolio.
- Work on your capstone both in and outside of class, taking advantage of scheduled mentoring sessions to discuss your progress, address challenges, and receive feedback from your instructor.

See examples of BIM capstone projects from students.