COURSE SYLLABUS

CAD/BIM Certificate Program (Self-Paced)

Build expertise in both AutoCAD and Revit to excel in drafting and building information modeling (BIM). This program prepares you for a dynamic career in the construction and design industries through hands-on, real-world projects.

Group classes in Live Online and onsite training is available for this course. For more information, email corporate@nobledesktop.com or visit: https://www.nobledesktop.com/certificates/cad-bim-certificate-program

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Course Outline

This package includes these courses

- Introduction to AutoCAD (Self-Paced) (30 Hours)
- Intermediate AutoCAD (Self-Paced) (30 Hours)
- AutoCAD Construction Documents I (Self-Paced) (30 Hours)
- AutoCAD Construction Documents II (Self-Paced) (30 Hours)
- Introduction to Revit (Self-Paced) (30 Hours)
- Intermediate Revit (Self-Paced) (30 Hours)
- BIM Construction Documents I (Self-Paced) (30 Hours)
- BIM Construction Documents II (Self-Paced) (30 Hours)

Introduction to AutoCAD (Self-Paced)

We start at the very beginning, using AutoCAD to draw drafting symbols, kitchen and bath fixtures, and then create a floor plan. We assemble everything into one sheet file. Learn about Drawing on Layers, Adding Text, Dimensions & Plotting.

- Create drafting symbols, kitchen and bath fixtures, a floor plan and integrate all information into one deliverable sheet file
- Distinguish the differences required to generate drawings for use as annotation and real-world model components
- Create and insert blocks and externally reference files and determine the appropriate times to apply those skill sets
- Master file management, drafting on layers, integrating drawing component files and plotting while creating on the class residential project

Intermediate AutoCAD (Self-Paced)

Use AutoCAD to draw an abbreviated set of construction documents for a residential project: floor plan, roof plan, foundation plan, electrical plan & building elevations. Create, insert and link drawings. Learn the best workflow.

- Create an abbreviated set of construction documents including floor plan, foundation plan, electrical plan and building elevations for a

small residential project

- Create and insert blocks, externally reference files and determine the appropriate times to apply those skill sets to optimize project efficiency
- Demonstrate layer and file management, external file referencing, use of model/layout environments and user coordinate systems
- Apply intermediate-level skills including layer management, user coordinate system development, creating sheet layout environments and plotting

AutoCAD Construction Documents I (Self-Paced)

Develop titleblock drawings from scratch. Then we draw a floor plan, multi-scale enlarged plans, roof plan and building elevations for a large one-story residence which will be continued in CAD 302.

- Create titleblock and titleblock/drawing label components for a professional office to facilitate development of deliverable sheet files.
- Create floor plan, enlarged plan, roof plan and building elevation of a moderately complex residential project
- Successfully integrate referenced files to create construction documents
- Demonstrate layer and file management, use of model/layout environments and multi-scale drawing presentation
- Organize deliverable sheet set to conform to the National CAD Standards
- Apply intermediate-level skills to create sheet layout environments and plotting

AutoCAD Construction Documents II (Self-Paced)

AutoCAD Construction Documents II continues the construction document set begun in CAD 301. Develop building elevations, sections, and wall sections; revise detail drawings; draft a metes and bounds (civil) drawing; and compile deliverable sheet files for a moderately complex residential project.

- Create building elevations, sections, and wall sections; revise detail drawings; draft a metes and bounds (civil) drawing; and compile deliverable sheet files for a moderately complex residential project
- Develop a title sheet and incorporate appropriate general notes and keynote legends
- Integrate external reference files to produce complete, coordinated construction documents
- Demonstrate effective layer and file management, utilize model/layout environments, and apply multi-scale drawing presentation techniques
- Apply intermediate to advanced skills to create professional sheet layouts and prepare files for plotting
- Organize the deliverable sheet set in accordance with National CAD Standards

Introduction to Revit (Self-Paced)

This beginner-level Revit course offers an in-depth exploration of the interconnections within a Building Information Model using Revit's architectural toolset. The curriculum supports development of a fully integrated 3D model that concurrently produces coordinated 2D documentation—such as floor plans, elevations, and rendered perspectives—while drafting and designing. Instruction commences with a predefined template, proceeding through setup of floor plans and elevations, generation of 3D views, assembly of drawing sheets, and exportation of deliverables to PDF. If you are interested in Revit Certification (also referred to as BIM Certification), we recommend completing the Revit Certification Course series to be fully prepared for the Autodesk Certified User Exam for Revit.

- 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 (Self-Paced)

This intermediate-level online BIM course delves into advanced project-documentation techniques within Revit Architecture. Building upon an existing model, the curriculum covers scheduling components, family-editor workflows for 2D and 3D content creation, graphic refinement, and assembly of a concise construction–document set. Through hands-on exercises, the course demonstrates how to transform a conceptual model into an interoperable set of construction drawings. If you are interested in Revit Certification (also referred to as BIM Certification), we recommend completing the Revit Certification Course series to be fully prepared for the Autodesk Certified User Exam for Revit.

- 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 (Self-Paced)

This online Revit course is the first of two Construction Document courses and focuses on Revit Architecture tools. You will model an existing single-story commercial building, using imported AutoCAD drawings as a base, and develop a site model. You will continue developing your Revit skills by modeling a significant two-story expansion of the initial building. This project scenario reflects the type of work commonly handled by AEC teams using Revit in professional settings.

- Apply BIM modeling tools to create an architectural model that includes existing conditions, partial demolition, and new construction
- Build project topography using external files and develop a site plan incorporating hardscape and landscaping
- Graphically represent project phasing, clearly distinguishing existing construction, demolition, and new construction
- Create renderings suitable for both presentation and documentation

BIM Construction Documents II (Self-Paced)

You will create construction documents for the commercial building and site created in BIM 301. You will 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 301.
- 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.