COURSE SYLLABUS

CAD/BIM Certificate (Self-Paced)

Build expertise in AutoCAD and Revit to support professional drafting and Building Information Modeling (BIM) workflows. Gain practical, real-world experience that prepares you for a versatile career in the construction and design industries.

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-self-paced

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Course Outline

This package includes these courses

- Commercial Blueprint Reading (Self-Paced) (6 Hours)
- Residential Blueprint Reading (Self-Paced) (6 Hours)
- Construction Estimating (Self-Paced) (6 Hours)
- AutoCAD Level I (Self-Paced) (18 Hours)
- AutoCAD Level II (Self-Paced) (12 Hours)
- AutoCAD Level III (Self-Paced) (18 Hours)
- AutoCAD Construction Documents I (Self-Paced) (18 Hours)
- AutoCAD Construction Documents II (Self-Paced) (12 Hours)
- Civil 3D Professional Bootcamp (Self-Paced) (24 Hours)
- Introduction to Revit (Self-Paced) (18 Hours)
- Intermediate Revit (Self-Paced) (18 Hours)
- BIM Construction Documents I (Self-Paced) (12 Hours)
- BIM Construction Documents II (Self-Paced) (6 Hours)
- Revit Mechanical (Self-Paced) (12 Hours)
- Revit Electrical (Self-Paced) (12 Hours)
- Revit Plumbing (Self-Paced) (12 Hours)
- CAD/BIM Capstone Project (Self-Paced) (18 Hours)
- CAD/BIM Industry & Portfolio (Self-Paced) (12 Hours)

Commercial Blueprint Reading (Self-Paced)

This Commercial Blueprint Reading course equips students with the core skills needed to confidently read, interpret, and evaluate commercial construction drawings.

- **Comprehensive Plan Reading:** Learn how to navigate and understand architectural, structural, MEP (mechanical, electrical, and plumbing), and site plans.

- **Construction Document Coordination:** See how multiple drawing sets work together and learn to identify shared details across plans.
- **Real-World Practice:** Work with authentic blueprints and construction documents to apply concepts in practical scenarios.
- **Blueprints in Action:** Discover how construction drawings are used for estimating, scheduling, and ensuring accurate execution in the field.

Residential Blueprint Reading (Self-Paced)

This self-paced Residential Blueprint Reading course introduces the essentials of reading and interpreting residential construction drawings. Designed for beginners and professionals alike, it covers architectural symbols, notations, scales, and abbreviations, helping you understand floor plans, elevations, sections, and construction details so you can confidently translate drawings into real-world builds.

- Understand how different drawings work together within a complete set of Construction Documents
- Examine how scale is applied across various drawing types
- Identify common elements and formatting used in blueprint submissions for building permits
- Learn why consistent formatting and clear information presentation are critical across all Construction Documents

Construction Estimating (Self-Paced)

The Construction Estimating Course provides a clear, practical introduction to the principles and methods used to develop construction cost estimates. In this self-paced course, you'll learn why estimating is essential and how to produce accurate, professional estimates used throughout bidding and project planning. The curriculum covers quantity takeoffs, pricing from measured drawings, and assembling complete, well-organized estimate proposals. These skills are essential for contractors, project managers, and anyone involved in construction budgeting and forecasting.

- Develop core estimating skills for residential and commercial projects
- Extract quantities and pricing from architectural and structural drawings
- Compare different estimate types, including conceptual, preliminary, and detailed estimates
- Calculate material, labor, equipment, and other project-related costs
- Learn commonly used construction estimating tools and digital software
- Identify potential cost risks early and refine estimates to improve accuracy

AutoCAD Level I (Self-Paced)

This hands-on AutoCAD Level I course introduces students to the essential tools and techniques used to create mechanical and architectural drawings. Through real-world projects and step-by-step instruction, you'll build confidence in using AutoCAD for professional drafting and design.

- Learn core drawing and editing commands to create and modify lines, circles, rectangles, and more
- Master object snap, tracking, and coordinate input to ensure precision and accuracy in every drawing
- Organize and manage your work with layers, templates, and advanced object types like polylines and ellipses
- Apply real-world workflows in drawing complex layouts, floor plans, and design elements for mechanical and architectural projects
- Insert, manage, and reuse blocks with tools like Tool Palettes and Design Center
- Prepare your drawings for print with layouts, viewports, annotations, and dimensioning tools

AutoCAD Level II (Self-Paced)

This intermediate AutoCAD course builds on the fundamentals, equipping students with advanced techniques for productivity, organization, and precision. Through hands-on projects, you'll learn how to streamline your workflow, manage complex drawings, and prepare professional documentation for print and collaboration.

- Improve productivity with advanced tools for accurate positioning, parametric constraints, and block usage
- Learn how to create, organize, and manage reusable content through custom block libraries
- Set up and customize drawing templates to maintain consistency across multiple projects
- Design and manage advanced layouts with viewports, paper space, and scaling techniques for print-ready drawings.
- Master annotation styles to ensure clarity and standardization in dimensions, text, and hatching
- Integrate external references (Xrefs) into your workflow to manage large-scale drawings and collaborate across teams

AutoCAD Level III (Self-Paced)

This advanced AutoCAD course is designed for experienced users looking to deepen their expertise through powerful annotation tools, dynamic content creation, and customized workflows. You'll gain the skills needed to streamline complex projects, collaborate efficiently, and tailor AutoCAD to fit your professional needs.

- Enhance drawings with advanced annotation tools, tables, and text objects for greater clarity and control
- Create dynamic blocks and attribute data to build smarter, more versatile design components
- Develop and publish professional drawing sets using sheet sets, layout tools, and collaborative features
- Customize the AutoCAD interface with user-defined settings, tool palettes, and productivity-enhancing macros
- Establish and enforce CAD standards across teams for consistent, high-quality output
- Learn tools for 2D automation and cloud-based collaboration to streamline workflows

AutoCAD Construction Documents I (Self-Paced)

In this course, you'll use AutoCAD to create title blocks from scratch and produce detailed residential construction documents for a moderately complex single-story home. Through project-based work, you'll build practical CAD workflow skills while learning core AutoCAD commands, interface navigation, and professional drafting processes. The course emphasizes essential 2D construction documentation techniques, including dimensioning, layout setup, layer management, and plotting.

- Create title blocks and drawing labels used to produce complete professional sheet sets
- Draft floor plans, roof plans, enlarged views, and building elevations with clear annotation and detailing
- Incorporate external references while managing layers, model space, layouts, and multiple scales
- Organize final sheet sets to align with National CAD Standards for industry-ready documentation
- Use intermediate AutoCAD techniques to develop accurate layouts and configure plots for final output

AutoCAD Construction Documents II (Self-Paced)

AutoCAD Construction Documents II is a self-paced, advanced course focused on producing accurate, professional construction documentation using AutoCAD. Building on foundational drafting skills, the course emphasizes creating detailed drawings that support clear communication across architecture, engineering, and construction workflows. Through guided, project-based lessons, you'll refine layout organization, annotation techniques, and drawing consistency across full project sets, while working with advanced layer control, plotting configurations, and custom block creation.

- Draft building elevations, wall sections, and site-specific drawings, such as metes and bounds plans, for a complex residential project
- Use external references to assemble complete drawing sets while managing layers, viewports, and multi-scale layouts

- Apply advanced drafting techniques to organize sheet sets and produce polished, ready-to-plot construction documents
- Format deliverables to align with commonly used architectural and engineering drawing standards

Civil 3D Professional Bootcamp (Self-Paced)

Master advanced Civil 3D techniques used in professional surveying, transportation design, and land development projects. Gain hands-on experience with alignments, profiles, parcels, corridors, grading groups, and pipe networks essential for producing construction-ready documentation. This instructor-led course is taught by industry experts and offered in NYC or live online.

- Create and manage survey points, parcels, and surface data
- Develop alignments, profiles, and corridor models for road design
- Subdivide land and label parcel geometry using Civil 3D tools
- Design and annotate grading groups, pipe networks, and pressure systems
- Build and customize templates, label styles, and construction documents

Introduction to Revit (Self-Paced)

Learn the industry-standard software for Building Information Modeling (BIM) in this Introduction to Revit course. Designed for aspiring architects, engineers, and designers, the course builds essential skills for designing, documenting, and analyzing buildings more efficiently. Through guided lessons, practical exercises, and real-world examples, you'll develop a strong foundation in Revit and its core workflows.

- **Revit Fundamentals:** Learn the interface, workspace, and essential tools
- **3D Modeling Essentials:** Create parametric building elements such as walls, doors, windows, roofs, and floors
- **Construction Documentation:** Generate floor plans, sections, and elevations directly from Revit models
- **Families & Components:** Create and manage Revit families to customize project elements
- **Rendering & Visualization:** Produce photorealistic renderings and walkthroughs to communicate design intent
- **Collaboration Concepts:** Explore Revit tools used to support multi-disciplinary project coordination

Intermediate Revit (Self-Paced)

Advance your Revit skills with this in-depth Intermediate Revit course designed for users with a solid foundation in the software. Ideal for professionals looking to improve productivity and create more detailed, sophisticated designs, the course explores advanced tools, workflows, and techniques used in real-world projects. Through industry-relevant self-paced learning, you'll deepen your Revit expertise and apply advanced features with confidence.

- **Advanced Modeling:** Create and refine complex 3D models using Revit's advanced architectural and engineering tools
- **Workflow Optimization:** Improve efficiency by streamlining workflows and supporting coordination across multi-disciplinary teams
- **Construction Documentation:** Produce professional construction documents with accurate annotations, schedules, and detailing
- **View & Presentation Control:** Manage viewports, visibility settings, and presentation techniques for clear, compelling output
- **Family Creation & Management:** Build and customize parametric families to increase flexibility and adaptability across projects

BIM Construction Documents I (Self-Paced)

Advance your BIM skills with the BIM Construction Documents I course. Designed to build a strong foundation in construction documentation, this course teaches you how to create, manage, and deliver clear, accurate documents using Building

Information Modeling tools. Ideal for designers, architects, and project managers, it focuses on practical techniques used to produce professional, industry-ready documentation.

- **Construction Documentation Basics:** Understand the role of construction documents in the building lifecycle and their connection to BIM workflows
- **Annotation & Detailing:** Create clear annotations, schedules, and detailed views that support effective communication
- **Sheet Layout & Standards:** Develop professional sheet compositions using industry-standard practices for consistency and readability
- **Collaboration Techniques:** Work effectively within multidisciplinary teams to integrate design models into documentation
- **Review & Quality Control:** Review and troubleshoot documents to reduce errors and improve project outcomes

BIM Construction Documents II (Self-Paced)

The BIM Construction Documents II course is designed for learners who have completed the introductory course or have equivalent experience. This advanced course explores deeper documentation techniques with a focus on efficiency, accuracy, and alignment with industry standards. Through guided, practice-based learning, you'll strengthen your ability to produce complex, professional project documentation using Revit.

- Master advanced Revit tools for creating detailed drawings and construction documents
- Work with complex models and integrate additional BIM data into documentation
- Improve accuracy and consistency across all phases of documentation
- Apply strategies for managing large-scale projects and collaborating with multidisciplinary teams
- Follow industry best practices to produce high-quality, professional deliverables

Revit Mechanical (Self-Paced)

Build essential skills for creating and managing mechanical systems in Autodesk Revit with this Revit Mechanical course. Designed for design and construction professionals at all experience levels, the course develops practical BIM expertise for mechanical systems design, analysis, and documentation through real-world workflows.

- Use Revit tools for HVAC and plumbing system design
- Create and manage 3D mechanical components, families, and system types
- Lay out equipment and ductwork while maintaining system accuracy and connectivity
- Coordinate mechanical systems with other disciplines in a collaborative BIM environment
- Produce professional construction documents and schedules for mechanical systems
- Apply advanced workflows to solve mechanical system design challenges

Revit Electrical (Self-Paced)

The Revit Electrical course provides comprehensive training in designing and documenting electrical systems using Autodesk Revit. You'll learn core electrical design concepts and BIM workflows, including circuiting, panel schedules, power distribution, and lighting layouts, through structured, practical instruction.

- Use Autodesk Revit for electrical design and construction documentation
- Apply key BIM concepts to electrical systems and workflows
- Create and modify electrical plans, including power distribution and lighting layouts
- Design electrical systems with accuracy and compliance with industry standards
- Annotate, document, and present electrical designs within Revit

- Coordinate electrical systems with other building disciplines using Revit tools
- Produce professional-quality electrical drawings and documentation
- Prepare and finalize technical deliverables that meet project requirements

Revit Plumbing (Self-Paced)

Build essential skills for creating, designing, and managing plumbing systems in Revit with this comprehensive self-paced course. Through guided, hands-on lessons, you'll learn how to model, coordinate, and document plumbing systems efficiently within a BIM environment, following professional workflows and industry standards.

- Learn Revit fundamentals with a focus on tools used for plumbing system design
- Set up and manage clear, accurate plan views for plumbing layouts
- Design and model complete plumbing systems, including domestic water and sanitary systems, with proper piping and fittings
- Select and size pipes using Revit tools to optimize system performance
- Annotate plumbing systems and produce detailed documentation such as schedules, layouts, and legends
- Coordinate plumbing systems with architectural, structural, and other MEP models
- Identify and resolve design issues to meet project requirements and industry standards
- Prepare polished, professional-quality drawings and documentation for final submission

CAD/BIM Capstone Project (Self-Paced)

In this course, students will bring together everything they've learned to complete a professional-grade project. Key skills include:

- Lead a full project workflow from initial concept to detailed documentation using CAD and BIM
- Integrate tools like AutoCAD and Revit in a unified, real-world project environment
- Refine project coordination methods, including collaboration and file management best practices
- Demonstrate professional-level drafting and modeling with detailed deliverables and annotations
- Apply design and construction documentation standards for residential or commercial projects
- Present a complete capstone project that showcases technical proficiency and design clarity

CAD/BIM Industry & Portfolio (Self-Paced)

Explore CAD and BIM career paths at your own pace in this self-guided capstone. Learn how tools such as AutoCAD, Revit, and Civil 3D are used in architecture, engineering, and construction roles while refining your projects into a polished, job-ready portfolio. The course also prepares you for the job search with guidance on resumes, LinkedIn profiles, and interviewing strategies.

- Explore common career paths and industries for CAD and BIM professionals
- Learn how to organize and present a professional portfolio
- Practice techniques for strengthening resumes and online profiles
- Study best practices for job searching, interviewing, and career growth
- Acquire strategies for presenting technical projects to employers