COURSE SYLLABUS

CAD Certificate

Learn 2D drafting skills with AutoCAD and enhance your design capabilities with specialized tools like Revit. This program prepares you for a successful career in construction design, with real-world applications and project-based learning.

Group classes (NYC) and onsite training are available for this course. For more information, email corporate@nobledesktop.com or visit: https://www.nobledesktop.com/certificates/cad



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Course Outline

This package includes these courses

- Commercial Blueprint Reading (6 Hours)
- Residential Blueprint Reading (6 Hours)
- Construction Estimating (6 Hours)
- AutoCAD Level I (18 Hours)
- AutoCAD Level II (12 Hours)
- AutoCAD Level III (18 Hours)
- AutoCAD Construction Documents I (18 Hours)
- AutoCAD Construction Documents II (12 Hours)
- Civil 3D Professional Bootcamp (24 Hours)
- CAD/BIM Capstone Project (18 Hours)
- CAD/BIM Industry & Portfolio (12 Hours)

Commercial Blueprint Reading

This course is designed to provide students with the foundational skills and insights necessary to interpret and analyze commercial construction drawings.

- Explore how to navigate and interpret various plan types, including architectural, structural, MEP (mechanical, electrical, and plumbing), and site drawings
- Understand how different sets of drawings relate to one another and identify overlapping details across plan sets
- Analyze actual blueprint examples and construction documents to apply your learning in a practical context
- Learn how professionals use construction drawings for estimating costs, scheduling, and ensuring accurate execution on-site

Residential Blueprint Reading

This course offers a detailed introduction to reading and interpreting residential construction blueprints. Perfect for both

newcomers entering the construction field and experienced professionals looking to sharpen their blueprint reading skills, this live, instructor-led course covers topics such as architectural notations, symbols, scales, and abbreviations. You'll learn how to interpret key residential drawings, including floor plans, elevations, sections, and construction details, to gain a full understanding of how to translate design documents into built environments.

- Understand how different drawings work together within a full set of construction documents
- Examine how scale is used across various types of drawings in a blueprint set
- Identify recurring elements and formatting across blueprint submissions for building permits
- Learn why consistent formatting and information presentation are critical across all construction documents

Construction Estimating

This course introduces students to the core principles and techniques used in the estimating process. You'll examine the purpose of estimating and build the skills needed to create accurate and professional estimates. Topics include quantity takeoffs, pricing based on measured quantities, and the components of a well-structured cost estimate proposal. Estimating plays a critical role in construction, from bidding to project planning, and is essential for contractors, project managers, and estimators.

- Build foundational estimating skills for both residential and commercial construction projects
- Learn how to extract pricing data by reading architectural and structural construction documents
- Compare estimate types, including preliminary, detailed, and conceptual cost forecasting
- Understand how to calculate material quantities, labor, equipment, and other project-related costs
- Get familiar with commonly used construction estimating tools and digital software
- Strengthen your ability to spot cost issues early and adjust estimates to minimize financial risk

AutoCAD Level I

This hands-on 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

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

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

In this course, you'll use AutoCAD to build titleblock drawings from the ground up and draft detailed residential documents, including floor plans, enlarged views, roof plans, and building elevations for a moderately complex single-story home. You'll gain practical CAD workflow experience, learning key AutoCAD commands, interface navigation, and project-based processes. The course focuses on essential 2D drafting techniques used in construction documentation such as dimensioning, layout configuration, layer management, and plotting procedures.

- Design titleblocks and drawing labels used by professional offices to generate complete sheet sets
- Draft comprehensive floor plans, roof plans, enlarged views, and elevations for a mid-level residential structure, including annotation and detailing
- Integrate external references while demonstrating effective layer control, model/layout usage, and multi-scale presentation
- Structure final sheet sets in compliance with National CAD Standards to ensure industry-ready documentation
- Apply intermediate AutoCAD techniques to create accurate layouts and configure plotting for deliverables

AutoCAD Construction Documents II

This advanced course is designed to strengthen your ability to produce accurate construction documentation using AutoCAD. Building on foundational drafting and CAD knowledge, this course emphasizes the creation of detailed drawings that support clear communication across architecture, engineering, and construction teams. You'll focus on refining layout organization, annotation techniques, and drawing consistency across full project sets. In addition, the course covers advanced layer control, plotting configurations, and custom block creation to prepare you for more complex drafting demands.

- Draft building elevations, wall sections, and site-specific drawings such as metes and bounds plans for a complex residential design
- Work with external references to compile complete drawing sets while managing layers, viewports, and multi-scale layouts
- Apply advanced drafting techniques to organize sheet sets and prepare polished, ready-to-plot construction documents
- Format deliverables to align with widely accepted architectural and engineering drawing standards

Civil 3D Professional Bootcamp

Master advanced Civil 3D techniques used in professional surveying, transportation design, and land development projects. In this hands-on bootcamp, you'll gain practical experience with tools like alignments, profiles, parcels, corridors, grading groups, and pipe networks, all essential for producing construction-ready documentation. Taught by industry experts, this course is available 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

CAD/BIM Capstone Project

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

Build the professional skills needed to launch a career in architecture, engineering, and construction. This course helps you refine your CAD and BIM projects, develop a standout portfolio, and prepare for the job market with confidence.

- Explore career opportunities available to professionals skilled in AutoCAD, Revit, and Civil 3D
- Learn what it's like to work in architecture, engineering, construction, and related industries
- Refine your CAD and BIM projects and compile them into a professional portfolio showcasing your drafting, modeling, and documentation skills
- Develop a polished resume and LinkedIn profile tailored to the AEC industry
- Get tips for standing out in job applications and interviews