

CAD Certificate Program

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

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



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Course Outline

This package includes these courses

- Introduction to AutoCAD (30 Hours)
- Intermediate AutoCAD (30 Hours)
- AutoCAD Construction Documents I (30 Hours)
- AutoCAD Construction Documents II (30 Hours)
- CAD Detailing (20 Hours)
- CAD and Project Management (20 Hours)
- Capstone Project (0 hours)

Introduction to AutoCAD

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

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

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. Includes the development of floor plan, roof plan and elevation notes.
- 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

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 building elevations, building sections, wall sections; modify detail drawings; create metes and bounds (Civil) drawing; create relevant deliverable sheet files for a moderately complex residential project. Includes the development of title sheet and appropriate general and keynote legends.
- Successfully integrate referenced files to create construction documents. Demonstrate layer and file management, use of model/layout environments and multi-scale drawing presentations.
- Apply intermediate/advanced-level skills to create sheet layout environments and plotting.
- Organize deliverable sheet set to conform to the National CAD Standards.

CAD Detailing

Create detail drawings. Learn the two dominant CAD standards AEC firms use – making detail drawings from scratch and by referencing and clipping information from other drawings. Learn drawing standards and about organizing your details.

- Create detail drawings pertinent to the course project.
- Create relevant deliverable sheet files.
- Integrate referenced files to create details for construction documents.
- Demonstrate layer and file management, use of model/layout environments and multi-scale drawing presentations.
- Apply intermediate/advanced-level skills to create sheet layout environments and plotting.

CAD and Project Management

This course shares many of the skills you need as a CAD and Project Manager. Learn best-practice Project Management skills. Learn to manage and organize office/project drawings.

- Demonstrate understanding of the technical and managerial skills required to succeed as a CAD and Project Manager.
- Organize the AutoCAD User Interface to optimize productivity and standards for an office.

- Use office standard file naming and file organization.
- Master an understanding of the National CAD Standards.
- Convert “an inherited CAD project” into a format which supports the National CAD Standards and Office CAD Standards.

Capstone Project

The VDCI Capstone Project course empowers students to apply their acquired skills in a real-world, project-based environment. Participants will complete a comprehensive design or construction project from concept to execution, showcasing their expertise in software like AutoCAD, Revit, or other industry-standard tools. This hands-on experience prepares students to excel in professional roles by demonstrating their ability to manage and deliver complex, detail-oriented projects.