COURSE SYLLABUS

Blueprint Reading & Construction Estimating Certification Course Online

Gain a thorough understanding of blueprint reading and construction cost estimating so you can confidently navigate both residential and commercial projects. You'll learn to interpret construction documents and develop cost estimates for everything from single-family homes to mixed-use commercial buildings.

> Group classes (Live Online) and onsite training are available for this course. For more information, email partnerships@vdci.edu or visit: https://vdci.edu/courses/blueprint-reading-construction-estimating-course



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Course Outline

This package includes these courses

- Residential Blueprint Reading Course Online (10 Hours)
- Commercial Blueprint Reading Course Online (20 Hours)
- Intro to Construction Estimating Course Online (20 Hours)
- Construction Estimating with Bluebeam Course Online (30 Hours)
- Construction Materials Course Online (30 Hours)
- MEP Blueprint Reading Course Online (20 Hours)
- Structural Blueprint Reading Course Online (20 Hours)

Attend our AI Construction Estimating with Togal.AI Course Online as a free elective (optional).

AI Construction Estimating with Togal.AI Course Online

Residential Blueprint Reading Course Online

Taught by a licensed architect, this course is designed to provide you with a thorough understanding of how to interpret and analyze residential construction blueprints. This comprehensive, instructor-led course is ideal for beginners looking to gain essential skills, as well as for seasoned professionals seeking to improve their ability to collaborate on residential projects.

- Demonstrate an understanding of the inter-relationship between the drawings included in a set of Construction Documents (blueprints).
- Analyze different drawings and see how scale is presented throughout a set of Construction Documents.
- Evaluate the similarities between all sets of blueprint construction documents submitted for building permits.
- Recognize the need for consistency in presenting information in all types of Construction Documents in this online blueprint reading course.

Commercial Blueprint Reading Course Online

Learn to interpret and analyze commercial construction blueprints in this class taught by a licensed architect. Designed for construction professionals and students, this course focuses on mixed-use commercial projects, including hotel, retail, and parking structures. You'll develop skills to read architectural, structural, mechanical, and electrical plans.

- Gain a comprehensive understanding of architectural, structural, mechanical, and electrical plans as applied to a mixed-use commercial construction project.
- Learn to read and interpret symbols, notations, and technical details in accordance with industry standards. Evaluate the similarities between all sets of construction documents submitted for building permits.
- Work with real-world construction drawings and documents to build practical skills.
- Understand how blueprints are used to estimate costs, plan projects, and ensure on-site accuracy during construction.

Intro to Construction Estimating Course Online

This course will show you the purpose of construction estimating, the tools used, and the skills required for construction estimating. You will go over quantity takeoffs and how to determine prices based on estimated quantities. The course wraps up discussing cost estimate proposals and what is included and excluded when creating an estimate.

- Understand the fundamentals of construction estimating for residential and commercial projects.
- Learn to interpret architectural and structural plans to extract relevant cost-related data.
- Master different types of estimates, such as conceptual, preliminary, and detailed estimating .
- Gain insight into quantity surveying, estimating takeoffs, labor costs, equipment costs, and contingency planning.
- Explore industry-standard tools and software used for creating precise cost estimations.
- Develop problem-solving skills to analyze discrepancies and mitigate cost overruns effectively.

Construction Estimating with Bluebeam Course Online

Learn how to perform accurate digital takeoffs and organize construction estimates in this class. Designed for contractors, estimators, and construction professionals, this course focuses on using Bluebeam Revu to generate quantity reports, streamline workflows, and prepare data for project proposals.

- Build a solid foundation in digital estimating by learning key concepts such as takeoffs, quantities, and bid preparation using Bluebeam Revu.
- Practice using Bluebeam's measurement, markup, and dynamic fill tools to calculate quantities across all building systems, including walls, windows, flooring, and roofing.
- Learn to manage data using tool chests, layers, spaces, and customizable columns. Export your takeoffs into shareable, editable reports for clients or team use.
- Apply your skills to real project drawings with structured exercises and assignments that mirror professional estimating workflows.

Construction Materials Course Online

The course provides a clear, practical overview of the materials and systems used in both residential and commercial construction, from concrete foundations through roofing systems. It covers how key construction materials are used, their properties, and sustainability considerations, giving you the knowledge needed to make informed decisions on construction projects.

- Understand the properties and uses of essential construction materials, including concrete, steel, wood, and more
- Explore the latest innovations in sustainable and green construction materials

- Learn how to evaluate and select the appropriate materials for various project requirements
- Gain practical knowledge on applying materials in both residential and commercial contexts
- Develop skills to assess material performance, durability, and cost-effectiveness
- Discover industry trends and best practices for using materials in modern construction projects

MEP Blueprint Reading Course Online

This is a comprehensive introduction to understanding and interpreting mechanical, electrical, and plumbing (MEP) blueprints. This course equips you with the skills to confidently navigate MEP plans, including HVAC systems, power and lighting layouts, and plumbing schematics. You will learn the following:

- Understand the fundamentals of reading and interpreting MEP blueprints
- Identify and analyze key components in HVAC, electrical, and plumbing systems
- Learn how to apply blueprint knowledge to real-world construction projects
- Develop skills to accurately interpret symbols, scales, and technical drawings
- Gain confidence in collaborating with design and construction teams using MEP plans
- Explore troubleshooting techniques for common challenges in blueprint interpretation

Structural Blueprint Reading Course Online

This course focuses on teaching students how to read and interpret structural blueprints used in professional construction environments. Students begin by building a strong foundation in structural assemblies and understanding why structural blueprint reading is essential to construction projects.

- Interpret structural blueprints and understand their role in construction projects
- Read and apply General Notes and Inspection Requirements in structural plans
- Identify and interpret foundations, footings, and slab-on-grade information
- Recognize symbols and abbreviations related to concrete, rebar, and structural steel
- Interpret steel beams, steel joists, metal decking, and associated assemblies
- Analyze structural details and sections, including weld symbols, bolt schedules, and rebar layouts