Advanced MicroStation V8i for Infrastructure Design Training Course



16 - 20 Nov 2026

Cape town

4600 € (Per Person)

Ref: #CAD4903_271571

Course Introduction / Overview:

This comprehensive training course is designed to elevate your proficiency in Bentley MicroStation V8i, a cornerstone software for infrastructure design and engineering worldwide. The program moves beyond basic commands to instill a deep understanding of the advanced techniques required for complex projects in transportation, civil engineering, and urban development. As discussed by authors like Frank Conforti in his work "Inside MicroStation V8i," mastering this platform is not just about learning tools but about adopting a workflow that ensures precision, efficiency, and collaboration. This course, offered by BIG BEN Training Center, focuses on real-world applications, enabling participants to manage large datasets, create intricate 2D drawings, develop detailed 3D models, and produce professional-grade project deliverables. We will explore the robust capabilities of MicroStation V8i for handling reference files, creating custom cell libraries, and applying advanced annotation, ensuring your designs meet the highest industry standards. By integrating theoretical knowledge with practical, hands-on exercises, this training provides a complete A-to-Z learning experience, empowering you to tackle the most demanding infrastructure design challenges with confidence and expertise. BIG BEN Training Center is committed to providing a learning environment that fosters professional growth and technical mastery.

Target Audience / This training course is suitable for:

- Civil Engineers.
- Infrastructure Designers.
- CAD Managers and Technicians.
- Transportation Engineers.
- Structural Drafters.
- Surveyors and Geomatics Professionals.
- Urban and Regional Planners.
- Project Engineers involved in infrastructure development.
- Architects working on large-scale site projects.
- Public Works Engineers.

Target Sectors and Industries:

- Engineering and Architectural Consulting Firms.
- Heavy Civil Construction Companies.
- Transportation and Highway Authorities.
- Railway and Mass Transit Organizations.
- Governmental bodies including Municipalities and Public Works Departments.
- Oil and Gas Pipeline and Facility Design.
- Utility Companies (Water, Wastewater, Power).
- Land Development and Real Estate Firms.
- Environmental and Geotechnical Engineering Services.

Target Organizations Departments:

- Engineering and Design.
- Drafting and CADD Operations.
- Infrastructure Planning and Development.
- Project Management and Controls.
- Surveying and Geomatics.
- Transportation and Highways.
- Structural Engineering.
- Public Works and Utilities.

Course Offerings:

By the end of this course, the participants will have able to:

- Master the advanced functionalities of the MicroStation V8i interface and workspace customization.
- Create and manage complex 2D geometries and annotations with precision.
- Effectively utilize and control reference files for collaborative project environments.
- Develop and manage custom cell libraries to standardize design elements.
- Build accurate 3D models of infrastructure components and site layouts.
- Apply rendering and visualization techniques to create compelling project presentations.
- Generate professional, industry-standard construction drawings and plot sets.
- Implement best practices for data management and interoperability with other software.
- Troubleshoot common issues in MicroStation V8i to maintain project workflow efficiency.

Course Methodology:

The training methodology at BIG BEN Training Center is centered on immersive, hands-on learning to ensure participants gain practical and applicable skills. This course moves beyond theoretical lectures by integrating real-world case studies drawn from complex infrastructure projects, allowing participants to apply MicroStation V8i techniques to solve genuine design challenges. Each session is highly interactive, featuring guided exercises, live demonstrations, and collaborative workshops where participants work in teams to tackle specific design tasks. This approach fosters problem-solving skills and a deeper understanding of collaborative workflows. Our expert instructors facilitate an open learning environment, encouraging questions and discussions to clarify complex concepts. Continuous feedback is a core component of our method, with instructors providing personalized guidance during practical sessions to help participants refine their techniques. The curriculum is structured to build skills progressively, ensuring a solid foundation before moving to more advanced topics, culminating in a comprehensive understanding of the software's application in a professional context. This blend of practical application, expert instruction, and interactive teamwork ensures a robust and effective learning experience.

Course Agenda (Course Units):

Unit One: Mastering the MicroStation V8i Environment

- Introduction to the MicroStation V8i interface and workspaces.
- Advanced file and model management techniques.
- Customizing user preferences and tool settings for efficiency.
- Deep dive into AccuDraw and AccuSnap for precision drafting.
- Advanced element selection and manipulation tools.
- Working with levels, filters, and display settings.
- Understanding and utilizing design file settings and standards.

Unit Two: Advanced 2D Drafting and Detailing

- Creating and editing complex geometric elements.
- Advanced dimensioning styles and annotation techniques.
- Working with text styles, fields, and notes.
- Developing and managing comprehensive cell libraries.
- Utilizing patterning, hatching, and complex line styles.
- Techniques for creating and controlling multi-lines.
- Best practices for maintaining drawing standards and consistency.

Unit Three: Collaborative Workflows with Reference Files

- Fundamentals of reference file attachment and management.
- Controlling reference file display, clipping, and masking.
- Advanced techniques for nesting and live nesting of references.
- Working with the Raster Manager for image and map integration.
- Understanding coordinate systems and geographic referencing.
- Strategies for managing large, multi-user projects.
- Data interoperability with DWG and other file formats.

Unit Four: 3D Modeling for Infrastructure Projects

- Navigating and working in the 3D design space.
- Creating primitive solids and complex 3D shapes.
- Techniques for surface modeling and mesh creation.
- Advanced solid modeling tools for modifying 3D elements.
- Building simple 3D site models from 2D data.
- Applying feature modeling for intelligent solids.
- Extracting 2D drawings from 3D models.

Unit Five: Visualization, Plotting, and Project Delivery

- Introduction to materials, lighting, and rendering settings.
- Setting up camera views and creating basic animations.
- Applying visualization techniques for design review.
- Creating and managing sheet models for plotting.
- Using the Print Organizer for batch plotting.
- Configuring plot drivers and pen tables for professional output.
- Final project review and best practices for project archiving.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can the principles of data-centric design and information management be applied within the MicroStation V8i framework to prepare projects for future digital twin integration and asset lifecycle management?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by focusing on the practical application of MicroStation V8i within the specific context of large-scale infrastructure projects, rather than offering a generic overview of CAD functions. Our curriculum is built around real-world scenarios and challenges faced by engineers and designers in the transportation, civil, and public works sectors. We emphasize not just the "how" but the "why" behind advanced techniques, ensuring participants understand how to leverage the software to solve complex engineering problems and maintain data integrity across the project lifecycle. Unlike courses that may focus solely on software commands, we integrate industry best practices for file management, collaborative workflows, and standards compliance, which are critical for success in a professional environment. The instruction moves beyond basic drafting to cover the entire project workflow, from initial setup and data integration to 3D modeling, visualization, and final deliverable production. This holistic, project-centric approach ensures that participants leave not just as proficient software users, but as more effective and efficient design professionals ready to contribute to demanding infrastructure projects.