Navisworks Manage for BIM Coordination and Simulation Training Course



14 - 18 Dec 2026

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4100 € (Per Person)

Ref: #CAD9866_271542

Course Introduction / Overview:

This course provides a comprehensive exploration of Autodesk Navisworks Manage, a cornerstone software for modern construction project management and Building Information Modeling (BIM) coordination. In an industry where project complexity is ever-increasing, the ability to aggregate data, identify conflicts, and simulate construction processes is no longer a luxury but a necessity for on-time and on-budget delivery. This program moves beyond basic software commands to instill a deep understanding of BIM coordination workflows, from initial model aggregation to advanced 4D and 5D simulations. As detailed by pioneers like Chuck Eastman in the "BIM Handbook," effective model integration is critical for mitigating risk and enhancing collaboration. Participants will learn to create a single, federated model from various design disciplines, enabling powerful project review and analysis. BIG BEN Training Center has designed this curriculum to empower professionals to leverage Navisworks for proactive problem-solving, transforming reactive clash detection into a strategic process for optimizing construction sequencing and resource planning. This training course is your definitive guide to mastering the tools and strategies that drive efficiency and innovation in the Architecture, Engineering, and Construction (AEC) industry.

Target Audience / This training course is suitable for:

- BIM Managers and Coordinators.
- Project Managers and Construction Managers.
- Virtual Design and Construction (VDC) Specialists.
- Project Engineers and Site Engineers.
- Planners and Schedulers.
- Architects and Design Professionals.
- Quantity Surveyors and Cost Estimators.
- Project Control Professionals.

Target Sectors and Industries:

- Commercial and Residential Construction.
- Architecture and Engineering Services.
- Infrastructure and Civil Engineering Projects.
- Oil and Gas Plant and Facility Management.
- Mechanical, Electrical, and Plumbing (MEP) Contracting.
- Government and Public Works Agencies.
- Real Estate Development and Property Management.

Target Organizations Departments:

- Project Management Office (PMO).
- Engineering and Design Departments.
- Construction Operations.
- Planning and Scheduling Division.
- BIM and VDC Departments.
- Contracts and Commercial Departments.
- Quality Assurance and Control (QA/QC).

Course Offerings:

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

- Aggregate multidisciplinary 3D models into a single, federated project model.
- Navigate and review complex models with advanced visualization and sectioning tools.
- Perform automated clash detection to identify, manage, and report on interferences.
- Develop detailed 4D construction simulations by linking model geometry to project schedules.
- Create compelling project visualizations and animations for stakeholder presentations.
- Generate material takeoffs and perform model-based quantification for 5D cost estimation.
- Integrate point cloud data for as-built verification and renovation projects.
- Customize and export detailed reports for clashes, simulations, and quantification.
- Collaborate effectively with project teams using Navisworks as a central review platform.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be immersive, practical, and highly interactive, ensuring that participants gain tangible skills they can apply immediately. This course moves beyond theoretical lectures by emphasizing a hands-on, learning-by-doing approach. Each module is built around practical exercises using real-world project datasets, allowing participants to work through the challenges of model aggregation, clash detection, and 4D simulation in a controlled environment. Our expert instructors facilitate collaborative workshops where participants can share insights and solve problems as a team, mirroring the collaborative nature of modern construction projects. The curriculum incorporates detailed case studies from various sectors within the AEC industry, showcasing best practices and innovative applications of Navisworks Manage. Interactive sessions, group discussions, and continuous Q&A opportunities ensure that every participant's learning needs are addressed. We provide constructive feedback throughout the course, helping attendees refine their workflows and build confidence in their ability to manage complex BIM coordination tasks effectively. This blended approach ensures a deep and lasting understanding of the software's strategic value.

Course Agenda (Course Units):

Unit One: Foundations of Navisworks Manage and BIM Coordination

- Introduction to the Navisworks platform and its role in the BIM lifecycle.
- Understanding the Navisworks Manage user interface, workspaces, and navigation tools.
- Exploring supported file formats and aggregation best practices.
- Appending and merging 3D models from various authoring tools.
- Saving and managing Navisworks file types (NWF, NWC, NWD).
- Utilizing selection and search sets for efficient model interrogation.
- Mastering object properties, measurement tools, and sectioning techniques.

Unit Two: Mastering Clash Detection and Interference Management

- Introduction to the principles of BIM coordination and interference checking.
- Setting up and configuring the Clash Detective tool.
- Creating and running clash tests between different disciplines.
- Analyzing, grouping, and filtering clash results for clarity.
- Assigning and managing clash statuses (New, Active, Reviewed, Approved, Resolved).
- Generating and customizing detailed clash reports for project teams.
- Establishing effective clash resolution workflows and best practices.

Unit Three: 4D Construction Sequencing and Simulation with TimeLine

- Understanding the fundamentals and benefits of 4D construction simulation.
- Introducing the TimeLine tool and its interface.
- Importing project schedules from external planning software.
- Creating tasks and linking them to model geometry using selection sets.
- Configuring task types to simulate construction, demolition, and temporary works.
- Running, analyzing, and recording 4D construction simulations.
- Exporting 4D simulations as animations for stakeholder communication.

Unit Four: Model-Based Quantification and 5D Estimation

- Introduction to 5D BIM and model-based quantity takeoff.
- Navigating the Quantification workbook and its components.
- Setting up a quantification project and organizing the item catalog.
- Performing automated and manual model takeoffs for various disciplines.
- Mapping model properties to quantification resources for detailed analysis.
- Managing and refining takeoff data within the workbook.
- Exporting quantification data to Excel for cost estimation and analysis.

Unit Five: Advanced Visualization, Collaboration, and Project Reporting

- Creating realistic renderings and visualizations with the Presenter tool.
- Developing object animations and interactive presentations with the Animator and Scripter tools.
- Integrating and working with laser-scanned point cloud data.
- Utilizing Redline tools for markup, comments, and collaborative review.
- Creating and managing viewpoints and camera animations for project walkthroughs.
- Publishing and sharing NWD files for wider team access with Navisworks Freedom.
- Consolidating project data and generating comprehensive reports for stakeholders.

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:

Beyond clash detection and 4D simulation, how might the principles of model aggregation and data visualization in Navisworks influence the future of digital twin technology in facility management?

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

This course distinguishes itself by focusing on the strategic implementation of Navisworks within a project management framework, rather than simply teaching software features in isolation. While other programs may cover the "how" of clicking buttons, we emphasize the "why" behind each workflow, connecting technical skills to critical project outcomes like risk mitigation, cost control, and schedule optimization. Our curriculum is built on a foundation of industry best practices and provides a holistic view of the BIM coordination lifecycle. We delve into the nuances of establishing effective collaboration workflows, managing communication around clash resolution, and leveraging simulation data to make informed decisions. The course content is enriched with practical insights and real-world case studies that demonstrate how to overcome common challenges in model aggregation and data integration. Participants will not just learn to use Navisworks; they will learn to think like a BIM coordinator, anticipating problems and strategically deploying the software's powerful capabilities to enhance project delivery from pre-construction through to handover. This focus on strategic application and problem-solving provides a deeper, more valuable learning experience.