Optimizing Construction Productivity and Resource Allocation Training Course

18 - 22 Oct 2026

Doha

5500 € (Per Person)

Ref: #CON6195_221692

Course Introduction / Overview:

This course provides a comprehensive framework for mastering the critical disciplines of productivity improvement and resource allocation within the construction industry. In an environment defined by tight margins and complex project variables, the ability to optimize labor, equipment, and materials is paramount to success. This program moves beyond theoretical concepts to deliver practical, actionable strategies for enhancing site efficiency, reducing waste, and ensuring projects are completed on time and within budget. Drawing upon foundational principles established by industry pioneers like Dr. Paul Teicholz, who has extensively researched the impact of technology on construction efficiency, the curriculum integrates classic project management techniques with modern innovations. Participants will explore concepts discussed in seminal works such as "Construction Project Management: A Practical Guide to Field Construction Management," learning to apply lean construction methodologies, advanced scheduling, and data-driven decision-making. BIG BEN Training Center has designed this course to empower professionals to systematically identify productivity bottlenecks, implement effective resource leveling strategies, and foster a culture of continuous improvement within their teams and organizations, ultimately driving profitability and competitive advantage.

Target Audience / This training course is suitable for:

- Project Managers.
- Construction Managers.
- Site Superintendents and Supervisors.
- Project Engineers and Site Engineers.
- Planners and Schedulers.
- Cost Control Engineers.
- Project Control Professionals.
- Procurement and Logistics Managers.
- Team Leaders in construction projects.
- Operations Managers in construction companies.

Target Sectors and Industries:

- General Construction and Contracting.
- Real Estate and Property Development.
- Infrastructure and Civil Engineering.
- Oil and Gas Projects.
- Power and Utilities Sector.
- Industrial and Manufacturing Plant Construction.
- Governmental bodies and public works agencies.
- Consulting Engineering Firms.

Target Organizations Departments:

- Project Management Office (PMO).
- Operations and Site Management.
- Planning and Project Controls.
- Engineering and Design.
- Procurement and Supply Chain Management.
- Contracts and Commercial Departments.
- Quality Assurance and Control.

Course Offerings:

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

- Analyze and measure construction productivity using key performance indicators.
- Identify common causes of productivity loss and develop mitigation strategies.
- Implement lean construction principles to eliminate waste and optimize workflow.
- Develop effective resource allocation plans for labor, equipment, and materials.
- Apply advanced scheduling and resource leveling techniques to prevent delays.
- Optimize site layout and logistics for maximum efficiency.
- Utilize data and technology to monitor project performance and inform decisions.
- Foster a culture of continuous improvement and high performance on site.
- Manage resource constraints and risks proactively throughout the project lifecycle.
- Enhance project profitability through systematic productivity enhancements.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and centered on practical application. We believe that adult learning is most effective when it connects theory directly to real-world challenges. This course utilizes a blended approach that includes expert-led presentations, in-depth discussions, and collaborative group activities. Participants will work through detailed case studies drawn from actual construction projects, allowing them to analyze complex scenarios, debate solutions, and apply learned techniques in a controlled environment. Interactive workshops and simulation exercises will challenge attendees to develop resource allocation plans, identify workflow inefficiencies, and create productivity improvement initiatives. Emphasis is placed on peer-to-peer learning, where participants can share experiences and insights from their own professional backgrounds. Our expert instructors facilitate a dynamic learning environment, providing continuous feedback and guiding participants to translate new knowledge into actionable skills they can implement immediately upon returning to their workplace, ensuring a tangible return on their training investment.

Course Agenda (Course Units):

Unit One: Foundations of Construction Productivity and Resource Management

- Defining and measuring construction productivity.
- Key factors influencing productivity on site.
- The economic impact of productivity loss.
- Introduction to resource management concepts (labor, equipment, materials).
- Principles of work breakdown structures (WBS) for resource planning.
- Understanding the project lifecycle and resource demand curves.
- Establishing productivity baselines and performance metrics.
- Common challenges in construction resource allocation.

Unit Two: Enhancing Labor and Equipment Productivity

- Techniques for effective workforce planning and management.
- Analyzing and improving labor utilization rates.
- Motivation theories and their application in construction.
- The role of supervision and communication in team performance.
- Strategies for equipment selection, planning, and allocation.
- Monitoring equipment performance and maintenance scheduling.
- Optimizing equipment-operator efficiency.
- Implementing technology for tracking labor and equipment.

Unit Three: Lean Material Management and Supply Chain Optimization

- Introduction to lean construction principles.
- Identifying and eliminating the eight wastes (Muda) in construction.
- Value Stream Mapping for construction processes.
- Just-in-Time (JIT) material delivery systems.
- Optimizing procurement and supply chain logistics.
- Effective site layout planning for material flow and storage.
- Waste management and reduction strategies.
- Supplier relationship management for improved reliability.

Unit Four: Advanced Planning, Scheduling, and Resource Allocation

- Critical Path Method (CPM) for project scheduling.
- Resource loading and resource histograms.
- Techniques for resource leveling and smoothing.
- The Last Planner System (LPS) for predictable workflow.
- Integrating resource availability with project schedules.
- Risk management in resource planning.
- Contingency planning for resource shortages.
- Using software tools for advanced scheduling and allocation.

Unit Five: Technology, Data Analytics, and Continuous Improvement

- The role of Building Information Modeling (BIM) in productivity.
- Utilizing drones and reality capture for site monitoring.
- Introduction to data analytics for performance tracking.
- Developing and using dashboards with Key Performance Indicators (KPIs).
- Implementing a continuous improvement cycle (Plan-Do-Check-Act).
- Fostering a culture of productivity and accountability.
- Case studies of successful productivity improvement programs.
- Future trends in construction technology and automation.

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 technological adoption, what is the single most critical cultural shift an organization must undergo to achieve sustainable productivity gains in construction?

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

This course distinguishes itself by offering a holistic and integrated perspective on construction productivity, moving beyond siloed topics to present a unified strategy for operational excellence. While many programs focus narrowly on either scheduling software or a single methodology like lean, this curriculum synthesizes classic project management discipline, lean principles, and modern technological enablers into a cohesive framework. The emphasis is not on simply learning tools, but on developing the critical thinking and leadership skills required to diagnose systemic issues and implement lasting solutions. We delve into the human factors of productivity, exploring how leadership, communication, and team culture directly impact site performance. The course is built around practical application, using real-world case studies and interactive simulations that compel participants to grapple with the same trade-offs and complex variables they face on actual projects. This approach ensures that attendees leave not just with theoretical knowledge, but with a strategic mindset and a portfolio of actionable techniques to drive measurable improvements in efficiency, cost-effectiveness, and project delivery.