Civil Engineering Project Management for Infrastructure Training Course



19 - 23 Oct 2026

Cape town

4600 € (Per Person)

Ref: #CON7380_271786

Course Introduction / Overview:

This comprehensive training course provides an in-depth exploration of the principles and practices essential for successfully managing civil engineering and infrastructure development projects. In an era of rapid urbanization and technological advancement, the effective management of projects such as bridges, highways, water systems, and public facilities is more critical than ever. This program is designed to equip participants with the core competencies required to navigate the entire project lifecycle, from initial conception and feasibility studies to execution, monitoring, and final handover. Drawing upon established frameworks detailed in works like "Project Management: A Systems Approach to Planning, Scheduling, and Controlling" by the renowned author Dr. Harold Kerzner, the course integrates foundational knowledge with modern challenges. BIG BEN Training Center has structured this curriculum to address key areas including risk management, cost control, quality assurance, and sustainable infrastructure practices. Participants will gain a robust understanding of how to lead teams, manage complex stakeholder relationships, and leverage new technologies to deliver projects on time, within budget, and to the highest standards of quality and safety.

Target Audience / This training course is suitable for:

- Civil Engineers and Site Engineers.
- Project Managers and Project Coordinators.
- Construction Managers and Supervisors.
- Urban Planners and Infrastructure Developers.
- Government Officials in Public Works and Municipal Engineering.
- Consultants in the engineering and construction sectors.
- Procurement and Contract Managers.
- Quality Control and Assurance Professionals.
- Architects and Design Managers.

Target Sectors and Industries:

- Construction and Engineering.
- Real Estate and Infrastructure Development.
- Transportation and Logistics.
- Energy and Utilities.
- Water and Wastewater Management.
- Telecommunications Infrastructure.
- Governmental bodies and public works agencies.
- Mining and Natural Resources.
- Environmental Engineering and Consulting.

Target Organizations Departments:

- Project Management Office (PMO).
- Engineering and Design.
- Operations and Site Management.
- Planning and Development.
- Procurement and Contracts.
- Quality, Health, Safety, and Environment (QHSE).
- Finance and Budgeting.
- Asset Management.
- Regulatory and Compliance Departments.

Course Offerings:

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

- Develop a comprehensive project management plan for civil infrastructure projects.
- Master advanced scheduling and cost estimation techniques for complex constructions.
- Implement effective quality control and quality assurance protocols on site.
- Identify, analyze, and mitigate risks specific to infrastructure development.
- Manage procurement processes and administer construction contracts effectively.
- Lead and coordinate multidisciplinary teams and manage stakeholder expectations.
- Integrate principles of sustainability and environmental compliance into project planning.
- Apply modern technologies like Building Information Modeling (BIM) conceptually.
- Conduct project closeout procedures and document lessons learned for future projects.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, practical, and engaging, ensuring that participants can immediately apply the learned concepts to their professional roles. This course moves beyond traditional lectures by incorporating a blended learning approach. A significant portion of the training is dedicated to analyzing real-world case studies of major infrastructure projects, allowing participants to dissect successes and failures in a controlled environment. Interactive workshops and group exercises will challenge attendees to collaborate on solving complex project scenarios, such as developing a risk mitigation plan or a stakeholder engagement strategy. The curriculum includes practical sessions on project planning, scheduling, and budgeting principles. Our expert instructors facilitate dynamic discussions, encouraging the sharing of experiences and fostering a collaborative learning atmosphere. Continuous feedback is provided throughout the course to ensure a deep understanding of the material, empowering participants with the confidence and skills to manage civil engineering projects effectively from start to finish.

Course Agenda (Course Units):

Unit One: Foundations of Civil Engineering Project Management

- Introduction to Infrastructure Project Management.
- The Project Management Lifecycle in Construction.
- Key Roles and Responsibilities of the Project Manager.
- Understanding Project Scope and Stakeholder Management.
- Project Feasibility Studies and Initial Planning.
- Ethical Considerations and Professional Conduct in Engineering.
- Introduction to Global Project Management Standards.

Unit Two: Project Planning and Scheduling

- Developing the Work Breakdown Structure (WBS) for Civil Projects.
- Advanced Cost Estimation and Budgeting Techniques.
- Critical Path Method (CPM) and PERT for Scheduling.
- Resource Allocation and Management.
- Procurement Planning and Strategy Development.
- Introduction to Building Information Modeling (BIM) in Planning.
- Creating a Comprehensive Project Management Plan.

Unit Three: Project Execution, Monitoring, and Control

- Managing Site Operations and Logistics.
- Implementing Quality Assurance and Quality Control (QA/QC) Systems.
- Health, Safety, and Environmental (HSE) Management on Construction Sites.
- Earned Value Management (EVM) for Performance Tracking.
- Change Control and Management Processes.
- Contract Administration and Supplier Management.
- Effective Communication and Progress Reporting.

Unit Four: Risk, Procurement, and Contract Management

- Identifying and Assessing Risks in Infrastructure Projects.
- Developing Risk Response and Mitigation Strategies.
- Procurement Methods and Tendering Processes.
- Understanding Different Types of Construction Contracts (FIDIC).
- Negotiation and Dispute Resolution in Construction.
- Managing Public-Private Partnerships (PPP).
- Legal and Regulatory Compliance in Civil Engineering.

Unit Five: Advanced Topics and Project Closeout

- Sustainable and Green Infrastructure Development.
- Integrating Smart City Concepts into Projects.
- Digital Transformation and Construction Technology Trends.
- Project Handover and Commissioning Processes.
- Finalizing Project Documentation and As-Built Drawings.
- Conducting Post-Project Reviews and Capturing Lessons Learned.
- Introduction to Infrastructure Asset Management.

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 project managers balance the immediate demands of cost and schedule with the long-term goals of sustainability and resilience in large-scale infrastructure projects?

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

This course distinguishes itself by offering a holistic and forward-looking perspective on civil engineering project management. While many programs focus solely on traditional methodologies, this curriculum deeply integrates contemporary challenges and innovations shaping the industry. We place a strong emphasis on the intersection of project management with sustainability, digital transformation, and the complexities of public-private partnerships. Rather than just teaching theoretical frameworks, the course uses a case-study-driven approach, analyzing real-world mega-projects to provide practical, actionable insights into what drives project success or failure. Participants will not only learn how to use planning and control tools but will also develop the critical thinking skills needed to navigate the ethical, environmental, and social dimensions of modern infrastructure development. The content is meticulously structured to build competencies progressively, from foundational principles to advanced strategic considerations, ensuring that graduates are prepared not just for their current roles but for future leadership positions in a rapidly evolving global industry.