

ADVANCED CONCRETE TECHNOLOGY TRAINING

“Master Modern Innovations in Concrete Design, Durability, and Performance.”

Schedule

Venue (InHouse)	Fees
At Your Organization Premises	Ask For The Quotation

► Available delivery methods: In-House Training

Introduction

Concrete remains the world’s most widely used construction material — yet advancements in materials science, sustainability, and design are transforming how it is produced, tested, and applied. The Advanced Concrete Technology Training course provides in-depth knowledge of the latest developments in concrete composition, admixtures, durability, quality control, and performance-based design. Participants will explore advanced concepts including high-performance concrete, self-compacting concrete, fiber-reinforced composites, and sustainable material alternatives. The course bridges the gap between theoretical understanding and field application, emphasizing problem-solving, testing methods, and case-based learning to improve structural quality and longevity.

Objectives

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

- Understand advanced principles governing concrete behavior and performance.
- Identify and evaluate the role of admixtures, pozzolans, and supplementary materials.
- Design high-strength and durable concrete mixes for specialized applications.
- Apply advanced testing and quality control procedures.
- Address challenges such as cracking, shrinkage, corrosion, and sustainability.
- Implement modern technologies for concrete monitoring and repair.
- Integrate sustainable practices to reduce environmental impact.

Why Attend

This course is designed for professionals seeking to enhance their technical expertise and decision-making in concrete technology. With growing emphasis on durability, sustainability, and cost efficiency, understanding advanced materials and techniques is crucial for ensuring long-lasting and resilient structures. Participants will gain the knowledge and confidence to apply state-of-the-art concrete solutions in both design and field implementation.

Target Audience

This training is highly beneficial for:

- Civil Engineers and Structural Engineers
- Quality Control and Quality Assurance Professionals
- Construction Managers and Site Engineers
- Materials Engineers and Technicians
- Project Managers and Supervisors
- Researchers and Academics in Construction Materials
- Professionals involved in concrete mix design, production, and testing

Individual Benefits

- Gain deep understanding of concrete behavior and its influencing factors.
- Develop expertise in designing and testing advanced concrete mixes.
- Learn to diagnose and prevent concrete failures effectively.
- Enhance your professional credibility in materials engineering and construction.
- Master the use of modern tools and technologies for quality assurance.
- Stay updated with global standards and sustainable concrete innovations.

Organizational Benefits

- Improve quality, durability, and reliability of construction projects.
- Reduce material waste and optimize resource utilization.
- Strengthen compliance with modern construction standards.
- Decrease lifecycle costs through improved durability and performance.
- Support sustainability and innovation in infrastructure projects.
- Build in-house expertise for quality control and technical supervision.

Instructional Methodology

The training combines technical theory with interactive, practice-oriented learning through:

- Expert-led lectures and multimedia presentations
- Case studies from recent global projects
- Laboratory demonstrations and mix design exercises
- Problem-solving and troubleshooting workshops
- Interactive group discussions
- Practical applications using advanced testing tools

Course Outline

- Module 1: Fundamentals of Concrete Composition and Performance
- Module 2: Advanced Materials – Admixtures, SCMs, and Fibers
- Module 3: Mix Design for High-Strength and High-Performance Concrete
- Module 4: Self-Compacting and Lightweight Concrete Technologies
- Module 5: Durability Factors – Corrosion, Shrinkage, and Cracking
- Module 6: Testing and Quality Control Procedures
- Module 7: Sustainable Concrete – Green Materials and Low-Carbon Solutions
- Module 8: Concrete Repair, Rehabilitation, and Protection
- Module 9: Innovations in Concrete Production and Monitoring
- Module 10: Case Studies and Best Practices in Advanced Concrete Applications

Certification

Participants who successfully complete this program will be awarded a Certificate in Advanced Concrete Technology, recognizing their expertise in modern materials, mix design, quality control, and sustainable construction practices.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
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- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

In-House / Customized Training

Interested in running this course for your team?

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