MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

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STRUCTURAL ANALYSIS AND DESIGN FOR CONCRETE BUILDINGS TRAINING

"Designing Strong, Safe, and Sustainable Concrete Structures."

Schedule

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

► **Available delivery methods:** In-House Training

Introduction

This comprehensive training program focuses on the principles, techniques, and tools used in the structural analysis and design of reinforced concrete buildings. Participants will learn how to apply fundamental engineering concepts, modern design codes, and computer-based methods to ensure structural safety, functionality, and cost-effectiveness. The course bridges theory and practice, empowering engineers to confidently analyze loads, design structural elements, and develop complete design documentation for real-world building projects.

Objectives

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

- Understand the behavior and load distribution of reinforced concrete structures.
- Perform structural analysis using manual and computer-aided methods.
- Design concrete elements including beams, slabs, columns, and foundations.
- Apply relevant design standards such as ACI, BS, and Eurocode.
- Integrate seismic, wind, and service load considerations into building design.
- Review drawings and specifications for code compliance and constructability.

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Why Attend

This training enhances participants' capabilities in both structural analysis and design, ensuring that buildings meet safety, serviceability, and durability standards. It provides practical insights applicable to real projects and introduces modern software tools and workflows widely used in the industry.

Target Audience

- Structural and Civil Engineers
- Design Engineers and Project Engineers
- Construction and Site Engineers
- Engineering Consultants and Contractors
- Technical Managers and Supervisors
- Engineering Students and Graduates seeking professional advancement

Individual Benefits

- Strong understanding of concrete building behavior under various loading conditions.
- Ability to perform and validate structural analysis and design.
- Practical knowledge of code-based design practices.
- Enhanced competence in the use of structural design software.
- Greater confidence in producing safe and efficient structural designs.

Organizational Benefits

- Improved quality and reliability of structural design outputs.
- Reduced design errors and rework during construction.
- Compliance with international standards and regulations.
- Enhanced team efficiency through the use of modern design methodologies.
- Strengthened reputation for delivering safe, cost-effective projects.

Instructional Methodology

The course combines:

- Interactive lectures and expert presentations
- Hands-on design workshops and calculations
- Software demonstrations (e.g., ETABS, STAAD.Pro, or SAFE)
- Real-world case studies and problem-solving sessions
- Group discussions and participant-led exercises

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Course Outline

Day 1: Fundamentals of Structural Analysis and Concrete Behavior

- Structural systems and load paths in buildings
- Properties and behavior of reinforced concrete
- Load combinations and design philosophy

Day 2: Design of Beams and Slabs

- Analysis and design of flexural members
- One-way and two-way slab design
- Deflection and crack control provisions

Day 3: Design of Columns and Foundations

- Short and slender column design
- Axial, bending, and combined load considerations
- Shallow and deep foundation design principles

Day 4: Structural System Design and Detailing

- Lateral load-resisting systems (shear walls, frames, cores)
- Reinforcement detailing and drawing interpretation
- Serviceability and durability design checks

Day 5: Software Applications and Case Studies

- Model setup and analysis using design software
- Review of sample projects and best practices
- Design review, optimization, and documentation

Certification

Participants who successfully complete the program will receive a Certificate of Completion in Structural Analysis and Design for Concrete Buildings Training, acknowledging their enhanced technical skills and professional competence in concrete building design.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **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? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**