Introduction to Eurocodes - Eurocode and Eurocode 1 for bridge designers

Course outline

Introduction

The Eurocodes are now the British Standards for the design of structures. An understanding of Eurocode (EC0) and Eurocode 1 (EC1) is essential for building designers to be able to design using the material Eurocodes (EC2 to EC6). This course will explain how to use both EC0 and EC1 to determine the design loads and actions on a bridge.

Aims & Objectives

On completion of this course delegates will understand the limit state principles of the Eurocodes and how to determine self-weight, imposed, wind, snow, thermal and accidental actions on a bridge through the use of lectures and workshop problems.

After this course delegates will:

- Understand the design approach of the Eurocodes
- Understand how the Eurocodes relate to each other and other European Standards
- Be able to determine combinations of actions
- Be able to establish the actions on a bridge due to
    - Self-weight
    - Traffic loads
    - Wind
    - Thermal effects
- Understand how to design a structure to resist accidental actions.
- Be ready to use the material Eurocodes

Course Outline

- Introduction
- Eurocode – Basis of design (EN 1990) – including design exercise.
- Densities, self-weight and imposed loads (EN 1991-1-1).
- Wind loading (EN 1991-1-4) – including design exercise
- Thermal actions (EN 1991-1-5) – including design exercise
- Traffic loading (EN 1991-2) – including design exercise
- Accidental actions (EN 1991-1-7)

Intended for:

This course is intended as an introduction to Eurocodes for structural engineers who design bridge structures.

Pre-course Requirements

Candidates should bring a calculator, pencil, ruler and eraser.

Course Duration:

Days (hrs) 1 day (6 hours) IPD/CPD