

Course Overview

A four-day course providing guidance and practice in the principles of good highway design, with emphasis placed on efficiency and safety of design within the national recommendations. The combined effects of physical construction with traffic management are also explored. You will need to have background knowledge of highways and mathematics.

The course is taught as four separate modules, with one day of classroom-based tuition for each module. At the end of each module an assignment will be set. This should be completed by the student and submitted by the start of the next module. There will be around six weeks between the modules, which allow students sufficient time to complete the assignment and hand it in before the next module commences.

Aims and Objectives

The course will provide students with a comprehensive introduction to highway design and will give students the confidence to do this type of work once back in the working environment. The course is valuable to students new to the subject matter or those with practical experience but lack the academic background in the subject area. The qualification is a well-respected demonstration of competence in this area of work.

Topics Covered

The module breakdowns are as follows (including more details overleaf):

Module 1	Introduction to Highway Design and Horizontal Alignment
Module 2	Vertical Alignment
Module 3	Priority Junctions and Roundabouts
Module 4	Traffic Signals

Module 1

Introduction to Highway Design

- Highways and capacity
- Traffic evaluation
- Government policy
- Route location
- Consultations
- Design speed of existing roads
- Contracts

Horizontal Alignment

- Factors affecting horizontal alignment
- Circular curves
- Transition curves
- Curve widening
- Super-elevation
- Setting out of composite curves
- Computer applications



Module 2

Vertical Alignment

- Gradients
- Vertical curves
- Coordination of horizontal and vertical design
- Drainage

Module 3

Priority Junctions

- Priority junctions
- Basic types of major/minor priority junction
- Principles of design and design considerations
- Safety
- Pedestrian facilities
- Geometric standards for design
- Traffic capacity of major/minor priority junctions

Roundabouts

- Capacity
- Geometric characteristics
- Signing and marking
- Special facilities

Module 4

Traffic Signals

- Terminology
- Traffic Signal Design
- Engineering at signalled junctions
- Pedestrian facilities at traffic signal installations
- Other types of signal installation

Certification

This course offers a BTEC Level 4 Certificate of Achievement for students through completion of a series of assignments that will be assessed by TMS and Bath College. This course can also contribute to the achievement of a Professional Diploma in Highway Engineering by further study of Highways and Transportation topics from the TMS and Bath College training programme.

Students who attend the course and do not successfully complete the assignments will receive a certificate of attendance providing all four modules / course days are attended. Students are not permitted to attend individual modules: *they must attend all four dates advertised.*

A joint TMS/Bath College Certificate/Diploma will also be issued to students completing the course.

In-House Training

Please note this is now only available as an in-house training course, delivered at your offices or at a suitable venue.

In-house training can often work out more cost effective where you have several members of staff you would like to be trained at any one time. The maximum number of delegates we can train on this course is limited to 16.

If you would like a quotation or further information regarding this training, please contact us using the enquiry form on our website.