

S2 – Advanced Setting Out Five-Day Course

Course Overview

This course is designed to give engineering graduates and personnel already working in the construction industry experience in the principles, calculations and practical application of site setting-out required for more complex setting-out conditions.

Many situations arise on the construction site where it is necessary to have at range of mathematical tools at one's disposal. The delegate will also be expected to have a good grasp of mathematics, as calculations will be taught during the course.

Emphasis is also put on making use of the many built-in functions of the Total Station, and survey software, which can greatly speed up operation and efficiency on the site.

This week-long training will give some insight into the application of the right method to solve more complicated problems.

It is assumed that the delegates will have either completed our S1 Basic Setting-Out course or have had at least six month's site setting-out experience and be fully conversant with the use of the level and Total Station.

The Course includes calculation of gradients, co-ordinates, bearings and distances to enable the engineer to calculate or check the required setting-out points from the given drawings.

Summary of main topics covered by the course:

- Levelling for control Measurement of instrument collimation error and knowing when an adjustment of the levelling is required.
- The Total Station – familiarisation instrument settings, prism constant and atmospheric corrections. Setting up jobs, storing co-ordinates.
- Transfer of data between computer and instrument for setting out in the field.
- The Total Station – using the free-station (resection) and principles of site control.
- Surveying (fixing) of a new station on site.
- Setting out with the efficient use of the Reference Line and Arc programs both a rectangular and a radial arrays of points.
- Setting out horizontal and vertical curves.
- Calculation of road cross-sections and setting-out batter-boards.
- Calculations on a site grid, co-ordinates, angles, bearings, basic trigonometry.
- Setting out structures from co-ordinates.
- Using Survey Drawing software and spread sheets to help check Setting out