



GSA SHORT COURSE 5-Day Setting Out for Engineering Surveying

Delegates will have either completed our levelling and total station course or possess at least 6 month's setting-out experience, be fully conversant with the use of level and total station and have a good grasp of mathematics.

Emphasis is put on making use of the many built-in functions of the Total Station.

Supporting survey software and spreadsheets are used to speed up operation and efficiency.

Delegates are given instruction on how any setting out might be checked and what can be done to guard against errors.

Summary of main topics covered:

- Introduction & Health and safety (using the equipment on site)
- Calculator functions, trigonometry, sine, cosine tangent and the use of Pythagoras's theorem, to calculate bearing and distances
- Levelling for control Measurement and datums
- The Total Station – familiarisation instrument settings, prism constant and atmospheric corrections. Setting up jobs, storing co-ordinates
- Awareness of instrument collimation error and knowing its effect
- Transfer of data between computer and instrument for setting out in the field
- Using Survey Drawing software and spreadsheets to help input data and check Setting out of as built points
- The Total Station – using the free-station (resection) and principles of site control
- Setting out by bearing and distance
- Setting out with the efficient use of the Reference Line
- Setting out by co-ordinates
- Calculation of gradients and setting out of drainage profiles
- Calculation of road cross-sections and setting-out batter-boards
- Setting out horizontal circular curves –Basic calculations
- Using the Ref Arc program for setting and checking radial arrays of points
- Course Review, questions and close.