



## Designing and Analysing Water Networks Using Computer Applications Training

### Description

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The latest techniques in modelling drinking water quality and river quality are presented alongside techniques for the analysis and control of very large scale systems. Techniques range from mathematical programming to artificial neural network algorithms and genetic algorithms.

The very important topic of data integration is also addressed by several authors in recognition of the fact that data – from the disparate areas of geographical information systems, asset databases and even global positioning satellite systems – are becoming available for operational modelling and control

#### Course Objective

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#### Course Outline

- Theory and principles (Hydraulic Review)
- Physical & chemical properties of water
- Supplying with underground water
- Drinking water & uses
- Applying water network models
- Network models (Basic Components)
- Hard & soft water ion exchange installation of wells & types, contamination, maintenance of wells
- Supplying with surface water (intake, low lift pumps tanks)
- Network models (other Components)
- Extended period simulation
- Sedimentation process (detention time, PH, coagulants, gentle & flash mixing)
- Filtration & design