

# Software Testing Foundation

## Profile

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This course provides comprehensive first-level training for anyone involved in software testing. It is accredited by the Information Systems Examination Board of the British Computer Society (ISEB), and follows the syllabus specified by the International Software Testing Qualification Board (ISTQB). It culminates in an optional one-hour multiple choice examination for the ISEB Foundation Certificate in Software Testing. Successful candidates will also gain the ISTQB Certified Tester - Foundation Level, a globally recognised qualification.

This course covers the fundamentals of testing: definitions of testing standards, planning, managing the lifecycle, reviews and the tools available. Techniques for creating tests are described and practised.

The course is comprised of lecture sessions, exercises which use the testing techniques, and practice examinations. In addition, an Examination Assistant booklet is provided to help delegates prepare with a revision guide and worked examples of questions.

Those delegates taking the ISEB Examination will need to spend some time each evening on revision and example examination questions. The amount of time required will depend on experience, but delegates should be prepared to spend a minimum of 1 hour each evening.

### Course content

#### Fundamentals of Testing

Testing terminology; General testing principles; Why testing is necessary; Fundamental test process; The psychology of testing

#### Testing Throughout the Lifecycle

Models for testing; Component, System Integration and Acceptance testing; Maintenance testing; Non-functional system testing; Functional system testing

#### Static Techniques

Reviews and the test process; Costs and benefits of reviews; Types of review: Walkthrough, technical review, inspections, informal review; Static analysis

#### Test Design Techniques

Black and White box testing; Black box test techniques including equivalence partitioning, boundary value analysis and state transition testing; White box test techniques including statement and decision

testing; Experience-based techniques; Choosing test techniques

#### Test management

Organisation; Project test plan; Configuration management; Test estimation: Inclusion in project schedule; Monitoring and control; Tracking progress and deviations from plan; Incident management: Logging, tracking and analysis; Risk and testing

#### Test tools

Types of test tool; Requirements testing; Static analysis; Test design; Data preparation; Capture/replay; Test running; Test harnesses, drivers and simulators; Performance testing; Dynamic analysis; Debugging; Comparison; Test management; Coverage measurement; Effective use, benefits and risk; Introducing a tool into an organization.

### **Prerequisites**

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- Anyone currently involved in testing or about to move into a testing role.
- Those wishing to attain the ISEB Foundation Certificate in Software Testing and/or the ISTQB Certified Tester - Foundation Level. Candidates with special examination requirements should consult the ISEB web site ([www.iseb.org.uk](http://www.iseb.org.uk)) for their Special Needs policy. Note that the ISEB must be advised at least four weeks in advance of any special requirements.
- Delegates should already have a basic working knowledge of IT and an understanding of the testing role in software development. Those who intend to sit the examination at the end of the course will benefit from pre-reading the ISTQB Foundation Level Syllabus and a standard text on the subject from the ISEB book list.

### **Skills**

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- explain the terminology associated with the ISTQB
- understand the principles and psychology of testing
- describe verification, validation and the steps in the testing lifecycle
- produce a project test plan
- understand the test management lifecycle
- produce test designs using equivalence partitioning, boundary value analysis and state transition techniques
- use static techniques to assess quality and coverage
- appreciate the different tools available for automating testing