

ISTQB-BCS Certified Tester Foundation Level



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ISTQB-BCS CERTIFIED TESTER: FOUNDATION LEVEL



Introduction

This information pack is specifically for the ISTQB-BCS Certified Tester: Foundation Level (CTFL) training course. The purpose of this pack is to set correct expectations for the course and to provide delegates with as much information as possible prior to the actual training, to prepare them to make the most out of the course. For more information, please contact us at training@etesting.com

ISTQB-BCS CTFL

This course is accredited by ISTQB (International Software Testing Quality Board) and the British Computer Society (BCS). The ISTQB was set-up to provide an internationally agreed syllabus to replace the ISEB Foundation Certificate. This is a 3 day course, the aim of which is to provide delegates with sufficient knowledge to pass the examination, at the end of the third day. Successful completion leads to the award of the ISTQB CTFL certificate.

e-testing[®] Training Services

e-testing offers training in software testing, including the Foundation Level, BCS Intermediate and Advanced Level certified courses. Non certified courses include User Acceptance Testing, Usability Testing and Introduction to Testing. Courses can be run from our own premises, at public venues throughout the UK and on client sites anywhere in the world.



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Company Profile

e-testing is an independent specialist IT firm with a total focus in software testing — both consultancy and training.

Established in 1999, we deliver high quality managed strategies and systematic solutions to locate weaknesses within the complexity of any IT system. Our training material is all developed in-house by testing professionals with many years industry experience behind them and is also licensed to other course providers.

e-testing is certified to ISO9001 standard and provides its services to a range of high profile clients.

Who Should Attend?

- ❖ The syllabus is intended for anyone requiring a basic professional understanding of software testing (project managers, quality managers, software development managers, business analysts, IT directors and management consultants)
- ❖ individuals looking to use International Standards to standardise the way testing is carried out. This particularly includes:
 - Testers
 - Test Analysts
 - Test Engineers
 - Test Consultants
 - Test Managers
 - User Acceptance Testers
 - Software Developers

Course Outline

The course is presented as 6 modules:

1. Testing Fundamentals
2. Testing Throughout the Lifecycle
3. Static Techniques
4. Test Design Techniques
5. Test Management
6. Tool Support for Testing



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Session 1: Fundamentals of Testing

Why is Testing Necessary

Defines software errors, defects, and failures, and explains their contexts, causes, and costs. Recounts the role of testing in software development, maintenance, and operations, and discusses how testing is related to risk and to quality, and how to determine how much testing is enough.

What is Testing

Remedies the misperception that “testing means running a program to see what it does” by identifying the test activities that precede and follow test execution. Distinguishes *static* and *dynamic* testing, and differentiates *testing* from *debugging*. Emphasises the need to ensure that test objectives are relevant to the testing context.

General Testing Principles

Describes 7 basic principles of good testing, which should be applied to all kinds of testing and at any level.

Fundamental Test Process

Outlines the essential activities of a fundamental test process, consisting of planning and control, analysis and design, implementation and execution, evaluating exit criteria and reporting, and test closure activities.

Psychology of Testing

Discusses differences between the tester's and developer's mindsets, the importance of independence in testing, and how independence can be achieved while maintaining good relations.

Session 2: Testing Throughout the LifeCycle

Software Development Models

Discusses different ways of relating test activities and work products to development activities and work products; draws out a set of integrated relationships suitable for any life cycle model, based on four “levels” of testing (component testing, integration testing, system testing, and acceptance testing) and the principle of “early test design”.



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Test Levels

Describes the major objectives and targets of each of the four test levels, identifying related development work products (“test basis”), types of defect and failure looked for, and likely test personnel.

Test Types: the Targets of Testing

Describes and compares four types of test “target”: software functions; “non-functional” characteristics such as performance and usability; software architecture and other structures such as program code; and change-related testing (confirmation testing and regression testing).

Maintenance Testing

Describes the special environment and considerations of post-release (“maintenance”) testing, including impact analysis to establish the need for regression testing.

Session 3: Static Techniques

Reviews and the Test Process

Explains why reviews are beneficial, what can be reviewed, and when in the lifecycle they should be carried out. Discusses the costs and benefits of reviews, and the relationships and differences between static and dynamic techniques.

Review Process

Describes the phases, roles, and responsibilities of a typical formal review. Explains the differences between informal reviews, walkthroughs, technical reviews, and Inspection. Discusses the factors for successful performance of reviews.

Static Analysis by Tools

Describes the objectives of static analysis as a form of “automated review”, and compares it to dynamic testing. Identifies typical code-level defects most easily found by static analysis, and lists typical benefits of static analysis.



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Session 4: Test Design Techniques

Identifying Test Conditions and Designing Test Cases

Covers the analysis of test conditions from a test basis document, the design of tests to exercise those conditions (“Test Design Specification”), and the implementation of tests via detailed “Test Case Specifications”, “Test Procedure Specifications”, and test execution schedules.

Categories of Test Design Technique

Explains the characteristics and differences between specification-based testing, structure-based testing, and experience-based testing. Identifies reasons that both specification-based (black-box) and structure-based (white-box) approaches to test case design are useful, and lists common techniques for each.

Specification-Based or Black Box Techniques

Describes four black box modelling techniques (equivalence partitioning, boundary value analysis, decision tables, and state-transition testing), and how their degrees of “coverage” may be measured. Introduces the concept of use case testing and its benefits.

Structure-based or White Box Techniques

Describes the concept and importance of statement and decision coverage, including their potential use at all test levels. Explains how to identify test cases based on process flows by using statement testing and decision testing.

Experience-Based Techniques

Explains how to supplement systematic techniques with additional creative test techniques, such as error guessing and exploratory testing.

Choosing Test Techniques

Shows how different techniques can be used for different kinds of testing and the importance of choosing the appropriate techniques for particular kinds of problem.

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Session 5: Test Management

Test Organisation

Discusses the importance of independent testing, stressing the resulting need for good communication between testers and the rest of the organisation. Recognises and describes the different roles of “tester” and “test leader” (test manager), listing typical tasks of each.

Test Planning and Estimation,

Summarises the purpose and content of the Test Plan document according to the ‘Standard for Software Test Documentation’ (IEEE 829). Differentiates two estimation approaches (the metrics-based approach and the expert-based approach). Explores concepts of test adequacy criteria (“exit criteria”) for specific test levels, and outlines several testing strategies that might be selectively combined into a planned “test approach” for achieving them.

Test Progress Monitoring and Control

Describes the need to monitor test activities to identify deviations from the Test Plan, so that corrective (“control”) actions may be agreed and undertaken. Identifies common metrics used for monitoring test preparation and execution, such as progress in test case specification, or tests run, passed, and failed. Summarises the purpose and content of the Test Summary Report document specified in the ‘Standard for Software Test Documentation’ (IEEE 829).

Configuration Management

Explains why configuration management and change control are necessary, particularly in testing. Discusses the configuration items for testing.

Risk and Testing

Describes the nature of risk, distinguishing “project risks” from “product risks”, and shows how risk analysis is used throughout testing to determine what to test, how much to test, and what should be tested first.

Incident Management

Discusses how to record incidents according to the ‘Standard for Software Test Documentation’ (IEEE 829), what needs to be tracked, and analysing defect statistics. Discusses the difference between severity and priority, and between defects and change requests.



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Session 6: Tool Support for Testing

Types of Test Tool

Describes seven categories of software test tools, outlining what each type can do, and particularly identifying tools that might benefit testers in their testing.

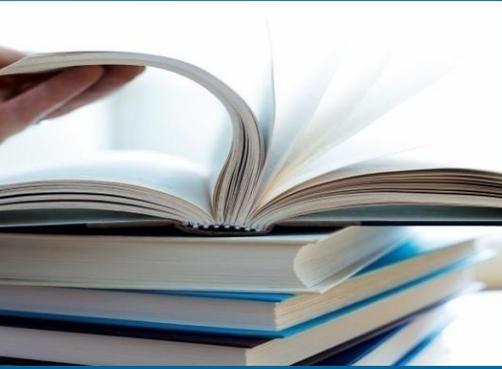
Effective Use of Tools: Potential Benefits and Risks

Summarises potential benefits and risks of test automation and tool support for testing.

Introducing a Tool Into an Organisation

States the main principles of introducing a tool into an organization, describing the goals of a proof-of-concept/piloting phase for tool evaluation, and recognising that factors other than simply acquiring a tool are required for good tool support.

Examination – 1 hour, 40 multiple choice questions



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Course Schedule

Day 1

09:00 – 13:00

13:30 – 17:30

Day 2

09:00 – 13:00

13:30 – 17:30

Day 3

09:00 – 13:00

15:00 – 16:00 Examination

The Examination

- Carried out by an external examiner provided by the British Computer Society (BCS) or International Software Quality Institute (ISQI).
- Revision work outside the course is recommended in order to be successful.
- The examination is 1 hour in duration, with 40 multiple choice questions
- Sample papers and questions to check progress are given throughout the course.
- Pass mark is 26/40 (65%).

Further Information

A list of recommended books and websites is available from our website:

<http://www.etesting.com/testing-info/>



TERMS AND CONDITIONS

1. Confirmed bookings

Delegates must return a completed booking form to constitute a confirmed booking.

2. Fees

Full payment must be made at the time of booking unless you are an e-testing account holder. If you are an account holder, payment must be received at least 14 days before the course commences. The fees cover tuition, all course documentation and materials, lunch and refreshments.

3. Payment Terms

Payment terms are immediate for non-account clients or 14 days prior to the course start date for account holders. Any account holders with different payment terms must contact e-testing to discuss their requirements upon booking. Please note, credit card payments are subject to a 2% surcharge.

Only clients who have paid the full amount in advance will be entitled to attend the training course. Cancellation terms apply to delegates who do not comply with the payment terms.

4. Substitutions

Direct substitution of a delegate(s) on a particular course may be made without penalty, provided that a minimum of one week's notice is given. Substitutions can only be made on a like for like basis, i.e. one delegate can be substituted for another on the same course (not on a course to take place in the future).

5. Transfers

Transfers will only be processed once full payment for the original booking has been received by e-testing. Only one transfer per delegate is permitted. In exceptional circumstances, and at the sole discretion of e-testing, transfers to another presentation of the same course may be allowed, within the cancellation period as set out above.

6. Cancellations

All cancellations must be confirmed in writing and are subject to the following charges:

More than 4 weeks in advance	= no charge
2 – 4 weeks in advance	= 50% of the course fee
Less than 2 weeks in advance	= 100% of the course fee

7. Cancellation by e-testing

Should accident or illness, or any event outside the control of e-testing, prevent us from running the course at the scheduled time, we would do our utmost to reschedule; however, by booking a course, the client indemnifies and holds harmless e-testing from and against any and all costs, damages, expenses and losses, howsoever caused, which are incurred by the client.