



# ISTQB-BCS Advanced Technical Test Analyst Certificate

## Course Introduction

This three day course leads to the ISTQB-BCS Advanced Technical Test Analyst Certificate.

The course focuses specifically on technical testing issues such as recognising and mitigating risks associated with the performance, security, reliability, portability and maintainability of software systems, structure-based and analytical test techniques, technical reviews and concepts of test tools and test automation. Candidates will be given exercises, practice exams and learning aids for the ISTQB-BCS Advanced Technical Test Analyst certificate.

The accredited material used in the course is used under licence from Grove Consultants. Sopra Steria is accredited by ISTQB-BCS as a training provider and accredited to offer the Certified Tester Foundation Level (CTFL) and the Advanced Test Analyst, Advanced Technical Test Analyst and the Advanced Test Manager certificates.

## Course Objectives

To provide an understanding of technical testing issues beyond the ISTQB Foundation level giving participants the knowledge and skills required to become an Advanced Technical Test Analyst.

## Who Will Benefit?

This 3-day course is most appropriate for Testers, Test Analysts, Test Engineers, Test Consultants, Software Developers and anyone wishing to gain the ISTQB Advanced Level Technical Test Analyst Certificate.

The Advanced Level certificates are also appropriate for anyone who wants a deeper understanding of software testing, such as Project Managers, Quality Managers, Software Development Managers, Business Analysts, IT Directors and Management Consultants.

## Prerequisites

To take the ISTQB Advanced Technical Test Analyst Certificate candidates must hold the ISTQB-BCS Foundation certificate. In addition course participants are expected to have an understanding of general programming and system architecture concepts.

## Skills Gained

An Advanced Technical Test Analyst can...

- Recognize and classify the typical risks associated with the performance, security, reliability, portability and maintainability of software systems.
- Create test plans detailing the planning, design and execution of tests for mitigating performance, security, reliability, portability and maintainability risks.
- Select and apply appropriate structure-based techniques to achieve defined coverage criteria based on code and design.
- Effectively participate in technical reviews with developers and software architects applying knowledge of typical mistakes made in code and architecture.
- Recognize risks in code and software architecture and use dynamic analysis to mitigate those risks.
- Use static analysis to suggest improvements to the security, maintainability and testability of code.
- Outline the costs and benefits expected from introducing particular types of test automation.
- Select appropriate tools to automate technical testing tasks.
- Understand the technical issues and concepts in applying test automation.

## Course Content

### The Technical Test Analyst's Tasks in Risk-Based Testing

Explains how to identify, assess and mitigate technical risks.

### Structure-Based Testing

This section builds on the Foundation techniques of statement and decision coverage. The structure-based techniques covered are condition testing, decision/condition testing, modified condition/decision coverage (MC/DC), multiple condition testing, basis path testing and API coverage. Participants learn how to choose appropriate structural test techniques.

### Analytical Techniques

Describes how to apply static analysis to detect potential security, maintainability and testability defects in code. The use of dynamic analysis to mitigate risks in code and software architecture is also covered.

### Quality Characteristics for Technical Testing

Explains how to design high-level test cases for the security, performance and

reliability quality characteristics including how to support the Test Manager in creating test strategies to mitigate the identified risks.

### Reviews

Here the focus is on using checklists to identify defects in code and architecture.

### Test Tools & Automation

Focuses on the tools and automation issues that are relevant to Technical Test Analysts. This session covers several tools, including those used for web-based testing, model-based testing, fault seeding and fault injection, component testing and the build process, and for performance testing. Discusses common technical issues that cause high failure rates in automation projects and different automation techniques. Specific issues resulting from the use of open-source and custom-built tools are also covered.

## The Exam

This course provides the delegates with the necessary knowledge and skills to take the ISTQB-BCS Advanced Technical Test Analyst Certificate exam. This is two hours in length and contains 45 questions.

Course participants will be given the opportunity to sit the examination on completion of the course. This is usually scheduled on the morning of the first working day in the week after delivery of the training but can be earlier if required.