ISTQB Certified Tester Advanced Level Technical Test Analyst (CTAL-TTA)

- Understand the complexities of testing internal code constructs
- Create efficient and effective test cases to cover complex decisions
- Improve the focus and power of the test cases you create
- Focus on multiple aspects related to the “internals” of your system where many defects hide
- Identify key technical characteristics of the system that require testing including: maintainability, analyzability, changeability, stability, portability and testability
- Understand the use of reviews and tools with the technical testing domain

The ISTQB® Advanced Tester Certification—Technical Test Analyst (TTA) training course expands on the test techniques and methods introduced in the ISTQB Foundation certification course. This three-day course covers six main areas that fall within the area of responsibility of the Technical Test Analyst, risk-based testing, structure-based testing, analytical techniques, quality characteristics for technical testing, reviews, and test tools and automation.

This course includes extensive hands-on exercises so that you can practice and master the methods and techniques covered in the course.

Who Should Attend?

- Individuals who have taken the ISTQB Certified Tester—Foundation Level training and wish to expand their knowledge and skills into more advanced areas
- Individuals who have received the ISTQB Foundation Level certification, have met the criteria for taking the advanced certification exams, and wish to prepare for those exams.
- Anyone wishing to learn more about advanced testing topics

ISTQB® Certification & Exam
The International Software Testing Qualifications Board (ISTQB) is the world's most widely-recognized certification of software testing skills and knowledge. Founded in 2002, the ISTQB is is a not-for-profit association that has issued more than 750,000 certifications in 129 countries around the globe. The ISTQB Software Tester Certification—Foundation Level (CTFL) is a prerequisite for the ISTQB Certified Tester Advanced Level Technical Test Analyst (CTAL-TTA) exam. In order to be eligible to take any of the Certified Tester—Advanced Level (CTAL) exams, potential examinees must submit proof of Certified Tester—Foundation Level (CTFL) certification.

For private and team training, the ISTQB Advanced Level Technical Test Analyst (CTAL-TTA) exam fee can be included in the course price upon request.

Please reach out to client support with any questionsclientsupport@coveros.com [1].

Course Outline

TTA’s Tasks in risk-based testing
Risk Management Activities – Revisited
Risk Identification, assessment and mitigation

Structure-based testing
Control Flow Analysis Control Flow Concepts – Revisited
Condition Testing
Recognizing Conditions in Decisions
Condition Testing – Issues

Quality characteristics for technical testing
Quality Characteristics – responsibility, requirements and issues
General Planning Issues
Stakeholder Requirements
Required Tool Acquisition and Training
Test Environment Requirements
Organizational Considerations

Decision Condition Testing
Decision Condition Testing – Issues
Modified Condition/Decision Coverage (MC/DC)
MC/DC – Usage and reasoning
MC/DC – Rules and coupled terms
Multiple Condition Testing
Multiple Condition Coverage - recognizing Multiple Conditions
Multiple Condition Coverage – Issues
Path Testing
Understanding Path Coverage
Formal Path Testing - Cyclomatic Complexity
API (Application Programming Interface)
API Testing
API Testing – Coverage and defects
Selecting a Structure-Based Technique

Analytical Techniques
Data Flow Analysis
Data Flow – Define-Use Technique
Define-Use Pairings – Common Pairings
General Data Flow – Common Anomalies
Improving Maintainability
Improving Maintainability – Tools
Call Graphs
Call Graphs – Usage and Application
Integration Testing – Methods
Pairwise Integration Testing
Neighborhood Integration Testing
McCabe's Design Predicate Approach
Dynamic Analysis
Dynamic Analysis – Applicability and tools
Dynamic Analysis – Application
Detecting Memory Leaks
Detecting Wild Pointers
Wild Pointers – tools and issues
Analysis of Performance
Data Security Considerations
Security Testing – Potential Threats
Security Test Planning – Concepts
Security Test Specification
Security Testing – Static Analysis
Reliability Testing
Measuring Software Maturity
Tests for Fault Tolerance
Recoverability Testing
Reliability Test Planning
Performance Testing
Load Testing
Stress Testing
Scalability Testing
Performance Test Planning
Resource Utilization
Maintainability Testing
Analyzability, Changeability, Stability, and Testability
Portability Testing
Installability, co-existence/compatibility, adaptability, replaceability

Reviews
Using Checklists in Reviews
Architectural Reviews
Code Reviews

Test tools and automation
Integration and Information Interchange
Defining the Test Automation Project
Technical Test Analyst – Key Activities
Selecting the Automation Approach
Data-Driven Approach
Keyword-Driven Approach
Test Automation – Initialization
Test Automation – Handling Errors
Modeling Business Processes
A Keyword Table – Example
Keyword Automation – Issues
Specific Test Tools
Fault Seeding/Fault Injection Tools
Performance Testing Tools
Tools for Web-Based Testing
Tools to Support Model-Based Testing
Component Testing and Build Tools