COURSE OVERVIEW – ISTQB ADVANCED TEST MANAGER

This course provides test managers with advanced skills in test estimation, test planning, test monitoring, and test control. Attendees will learn how to define the overall testing goals and strategy for the systems being tested. They will gain hands-on experience in planning, scheduling, and tracking these tasks. The attendees will be able to describe and organize the necessary activities. They will return to work able to select, acquire and assign adequate resources for testing tasks. They will know how to form, organize, and lead testing teams. Test manager attendees will be able to organize communication between the members of the testing teams, and between the testing teams and all the other stakeholders. Further, they'll learn how to justify their decisions and provide adequate reporting information where applicable.

By the end of this course, an attendee should be able to:

- Manage a testing project by implementing the mission, goals and testing processes established for the testing organization.
- Organize and lead risk identification and risk analysis sessions and use the results of such sessions for test estimation, planning, monitoring and control.
- Create and implement test plans consistent with organizational policies and test strategies.
- Continuously monitor and control the test activities to achieve project objectives.
- Assess and report relevant and timely test status to project stakeholders.
- Identify skills and resource gaps in their test team and participate in sourcing adequate resources.
- Identify and plan necessary skills development within their test team.
- Propose a business case for test activities which outlines the costs and benefits expected.
- Ensure proper communication within the test team and with other project stakeholders.
- Participate in and lead test process improvement initiatives.

Created by Rex Black, President of RBCS, Inc. (www.rbcs-us.com), past President of the International Software Testing Qualifications Board (www.istqb.org), past President of the American Software Testing Qualifications Board (www.astqb.org), and co-author of the International Software Testing Qualifications Board Advanced Syllabus, this course is also ideal for testers and test teams preparing for certification. It covers the International Software Testing Qualifications Board Advanced Level Syllabus Test Manager 2012, and has been accredited by an ISTQB-recognized National Board.

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Learning Objectives

Through presentation, discussion, and hands-on exercises, attendees will learn to:

- Analyze the test needs for a system in order to plan test activities and work products that will achieve the test objectives
- Use traceability to check completeness and consistency of defined test conditions with respect to the test objectives, test strategy, and test plan
- Explain the factors that might affect the level of detail at which test conditions may be specified and the advantages and disadvantages for specifying test conditions at a detailed level
- Use traceability to check completeness and consistency of designed test cases with respect to the defined test conditions
- Use risks, prioritization, test environment and data dependencies, and constraints to develop a test execution schedule which is complete and consistent with respect to the test objectives, test strategy, and test plan
- Use traceability to monitor test progress for completeness and consistency with the test objectives, test strategy, and test plan
- Explain the importance of accurate and timely information collection during the test process to support accurate reporting and evaluation against exit criteria
- Summarize the four groups of test closure activities
- Implement a project retrospective to evaluate processes and discover areas to improve
- Analyze the stakeholders, circumstances, and needs of a software project or program, including the software development lifecycle model, and identify the optimal test activities
- Understand how software development lifecycle activities and work products affect testing, and how testing affects software development lifecycle activities and work products
- Explain ways to manage the test management issues associated with experience-based testing and non-functional testing
- Explain the different ways that risk-based testing responds to risks
- Explain, giving examples, different techniques for product risk analysis
- Analyze, identify, and assess product quality risks, summarizing the risks and their assessed level of risk based on key project stakeholder perspectives
- Describe how identified product quality risks can be mitigated and managed, appropriate to their assessed level of risk, throughout the lifecycle and the test process
- Give examples of different options for test selection, test prioritization and effort allocation
- Analyze given samples of test policies and test strategies, and create master test plans, level test plans, and other test work products that are complete and consistent with these documents

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- For a given project, analyze project risks and select appropriate risk management options (i.e., mitigation, contingency, transference, and/or acceptance)
- Describe, giving examples, how test strategies affect test activities
- Define documentation norms and templates for test work products that will fit organization, lifecycle, and project needs, adapting available templates from standards bodies where applicable
- For a given project, create an estimate for all test process activities, using all applicable estimation techniques
- Understand and give examples of factors which may influence test estimates
- Describe and compare typical testing related metrics
- Compare the different dimensions of test progress monitoring
- Analyze and report test results in terms of the residual risk, defect status, test execution status, test coverage status, and confidence to provide insight and recommendations that enable project stakeholders to make release decisions
- Give examples for each of the four categories determining the cost of quality
- Estimate the value of testing based on cost of quality, along with other quantitative and qualitative considerations, and communicate the estimated value to testing stakeholders
- Understand the factors required for successful use of distributed, outsourced, and insourced test team staffing strategies
- Summarize sources and uses of standards for software testing
- Understand the key characteristics of management reviews and audits
- Analyze a project to select the appropriate review type and to define a plan for conducting reviews, in order to ensure proper execution, follow up, and accountability
- Understand the factors, skills, and time required for participation in reviews
- Define process and product metrics to be used in reviews
- Explain, using examples, the characteristics of a formal review
- Develop a defect management process for a testing organization, including the defect report workflow, that can be used to monitor and control a project's defects throughout the testing lifecycle
- Explain the process and participants required for effective defect management.
- Define the data and classification information that should be gathered during the defect management process
- Explain the process and participants required for effective defect management.
- Explain how defect report statistics can be used to evaluate the process capability of the testing and software development processes
- Explain, using examples, why it is important to improve the test process
- Define a test process improvement plan using the IDEAL model
- Summarize the background, scope and objectives of the TMMi test process improvement model

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- Summarize the background, scope and objectives of the TPI-Next test process improvement model
- Summarize the background, scope and objectives of the CTP test process improvement model
- Summarize the background, scope and objectives of the STEP test process improvement model
- Describe management issues when selecting an open-source tool
- Describe management issues when deciding on a custom tool
- Assess a given situation in order to devise a plan for tool selection, including risks, costs and benefits
- Explain the different phases in the lifecycle of a tool
- Describe how metric collection and evaluation can be improved by using tools
- Using a skills assessment spreadsheet, analyze the strengths and weaknesses of team members related to use of software systems, domain and business knowledge, areas of systems development, software testing and interpersonal skills
- Analyze a given skills assessment for a team in order to define a training and skills development plan
- For a given situation, discuss the necessary hard and soft skills required to lead a testing team
- Explain options for independent testing
- Provide examples of motivating and demotivating factors for testers
- Explain the factors that influence the effectiveness of communication within a test team, and between a test team and its stakeholders

Course Materials

This course includes the following materials:

Name	Description
Course Outline	A general description of the course along with learning objectives, course materials and an outline of the course topics, including approximate timings for each section.
Noteset	A set of approximately 500 PowerPoint slides covering the topics to be addressed.
Foundation Sample Exam Questions	A set of approximately 150 pages of review materials for the Foundation level covering every learning objective in the ISTQB Foundation Syllabus.
Foundation Mock Exam	A practice exam containing 40 questions and answers to provide a review of the ISTQB Foundation exam.

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Advanced Test Manager Sample Exam Questions	A complete set of questions for every learning objective in the Test Manager ISTQB Certified Tester Advanced Level Test Manager Syllabus.
Exercise Solutions	A set of approximately 100 pages of detailed solutions for all exercises in the course
Advanced Test Manager Mock Exam	A practice exam containing questions and answers to assess your readiness for the ISTQB Advanced exam.
Project Source Documents for Course Exercises	Specifications used in the realistic example project used in exercises for the course.
Bibliography and resources	A set of further readings, Web sites, tools and other resources to help implement the concepts.

The printed course materials are provided in a binder in a way which makes it convenient for course attendees to remove portions as needed for reference; e.g., during exercises.

Session Plan

The course runs for five days. Each day is about 360 minutes of class time, from 8:00 to 4:30. For accredited course offerings, material is covered as described. For custom courses, material may be deleted, added, or expanded upon as needed.

Please note that timings are approximate, depending on attendee interest and discussion. All of the lectures include exercises and/or knowledge-check questions except as noted.

The following shows this session plan in relationship to the chapters and sections of the ISTQB Advanced Syllabus Test Manager.

Introduction and Review (60 minutes, no exercises)

1.1 Testing Process (420 minutes)

1.2 Test Planning, Monitoring and Control (75 minutes, 1 exercise)
1.3 Test Analysis (75 minutes, 1 exercise)
1.4 Test Design (60 minutes, 1 exercise)

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1.5 Test Implementation (60 minutes, 1 exercise)
1.6 Test Execution (60 minutes, 1 exercise)
1.7 Evaluating Exit Criteria and Reporting (15 minutes, no exercises)
1.8 Test Closure Activities (70 minutes, 1 exercise)

2.0 Test Management (750 minutes)
2.2 Test Management in Context (105 minutes, 1 exercise)
2.3 Risk-Based Testing and Other Approaches for Test Prioritization and Effort Allocation (135 minutes, 1 exercise)
2.4 Test Documentation and Other Work Products (225 minutes, 2 exercises)
2.5 Test Estimation (75 minutes, 1 exercise)
2.6 Defining and Using Test Metrics (105 minutes, 2 exercises)
2.7 Business Value of Testing (75 minutes, 1 exercise)
2.8 Distributed, Outsourced, and Insourced Testing (15 minutes, no exercises)
2.9 Managing the Application of Industry Standards (15 minutes, no exercises)

3.0 Reviews (180 minutes)
3.2 Management Reviews and Audits (15 minutes, no exercises)
3.3 Managing Reviews (90 minute, 1 exercise)
3.4 Metrics for Reviews (60 minutes, 1 exercise)
3.5 Managing Formal Reviews (15 minutes, 1 exercise)

4.0 Defect Management (150 minutes)
4.2 The Defect Lifecycle and the Software Development Lifecycle (75 minutes, 1 exercise)
4.3 Defect Report Information (60 minute, 1 exercise)
4.4 Assessing Process Capability with Defect Reporting Information (15 minutes, no exercises)

5.0 Improving the Testing Process (135 minutes)
5.2 Test Improvement Process (15 minutes, no exercises)
5.3 Improving the Test Process (60 minutes, 1 exercise)
5.4 Improving the Test Process with TMMi (15 minutes, no exercises)
5.5 Improving the Test Process with TPI Next (15 minutes, no exercises)
5.6 Improving the Test Process with CTP (15 minutes, no exercises)
5.7 Improving the Test Process with STEP (15 minutes, no exercises)

6.0 Test Tools and Automation (135 minutes)

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6.2 Tool Selection (105 minutes, no exercises)
6.3 Tool Lifecycle (15 minutes, no exercises)
6.4 Tool Metrics (15 minutes, no exercises)

7.0 People Skills – Team Composition (210 minutes)
7.2 Individual Skills Communication (minutes, 1 exercise)
7.3 Test Team Dynamics (15 minutes, 1 exercise)
7.4 Fitting Testing Within an Organization (15 minutes, no exercises)
7.5 Motivation (15 minutes, no exercises)
7.6 Communication (15 minutes, no exercises)

Recommended Readings

The class materials include a bibliography of books related to software testing, project management, quality, and other topics of interest to the test professional.

Please refer to www.impimpitech.co.za for more details

ISTQB Certified Tester Foundation Level

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