

## Software Testing Foundation: A Comprehensive Hands-On Introduction - 4 Days

### *Course 316 Overview*

#### **You Will Learn How To**

- Apply general software testing principles and fundamental test processes
- Implement test levels and types to various software development models
- Conduct static techniques using proper roles, responsibilities and tools
- Perform specification- and structure-based test design techniques
- Manage tests, including planning, estimating, monitoring and controlling
- Prepare for the ISTQB Certified Tester Foundation Level Exam

#### **Course Benefits**

The proper testing of software can save an organization time, effort and money. In this course, software professionals and managers gain thorough knowledge of testing approaches that can be integrated into the software life cycle. Through hands-on exercises, you learn how to build testing methods into your work process to correctly design products that are functionable and maintainable.

#### **Who Should Attend**

Software testers, programmers, test leaders, quality specialists and those who would like to earn the ISTQB Certified Tester Foundation Level certification. A familiarity with software development concepts is assumed.

#### **Hands-On Training**

Hands-on exercises provide you with practical experience in software testing, including:

- Recognizing the value of a defined test process
- Deciphering when to apply static and dynamic techniques
- Recognizing equivalence partitions
- Performing boundary value analysis
- Conducting state transition testing
- Ensuring statement, decision and condition coverage
- Organizing test development processes
- Creating a test policy and writing a test plan

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### Course 316 Outline

#### Fundamentals of Software Testing

- Assessing the goals of testing
- Identifying causes of software defects
- Organizing testing processes
- Planning
- Controlling
- Analyzing
- Designing
- Implementing and executing
- Evaluating exit criteria and reporting

#### Ensuring Testing throughout the Software Life Cycle

##### Key objectives of testing

- Finding defects during the life cycle
- Implementing test levels
- Component
- Integration
- System
- Acceptance

#### Recognizing key concepts in maintenance testing

- Identifying reasons for maintenance testing
- Performing maintenance testing

#### Comparing the four test types

- Functional
- Nonfunctional
- Structural
- Confirmation

#### Coping with the psychology of testing

- Contrasting the mind-set of developers and testers
- Deciphering levels of independence

#### Implementing Static Analysis Techniques

##### Determining when to apply each technique

- Defining roles and responsibilities
- Comparing formal and informal reviews
- Discussing the types of review
- Walkthrough
- Inspection
- Technical

#### Leveraging Test-Design Techniques

##### Differentiating various "specifications"

- Test design

- Test case
- Test procedure

#### Applying specification-based techniques

- Equivalence partitioning
- State transition
- Boundary value analysis
- Use case
- Decision table

#### Utilizing structure-based techniques

- Statement
- Decision
- Condition

#### Deploying experience-based knowledge

- Intuition
- Experience
- Knowledge

#### Test Management

##### The importance of a test policy

- Defining goals and objectives
- Assigning roles and responsibilities
- Independence
- Test leader
- Tester
- Standardizing test documentation
- Monitoring and controlling test progress

#### Structuring a test plan

- Writing a test plan
- Identifying objectives
- Assessing the entry and exit criteria
- Assigning appropriate resources
- Resolving defects

#### Interpreting a test summary report

- Evaluating summary report content
- Applying common metrics

#### Managing incidents

- Recording
- Analyzing
- Closing

#### Addressing project and product risks

- Contractual
- Organizational
- Technical
- Assess
- Determine

- Implement

#### Implementing Configuration Management (CM)

##### Defining the functions of CM

- Change control
- Version control
- Traceability
- Configuration identification and audits

#### Evaluating objectives of CM

- Ensuring proper version control
- Generating incident reports

#### Adopting Test Support Tools

##### Classifying different types of test tools

- Test management
- Static testing
- Test specification
- Executing and logging
- Performance and monitoring
- Other

#### Introducing a tool into an organization

- Recognizing potential benefits and risks
- Considering special circumstances