# Chicago Institute of Technology

## MANUAL TESTING

### Introduction to Software Testing

**Fundamentals of Testing:**

- Why is testing necessary?
- What is testing?
- Economics of Testing
- Black Box Testing
- White Box Testing
- Software Testing Principles
- Fundamental Test Process

**Testing Throughout the Software Life Cycle:**

- Software Development models
- V - Model
- Iterative Life Cycles
- Agile Model
- Test Levels
- Component Testing
- Integration Testing
- System Testing
- Acceptance Testing
- Maintenance testing

**Static Techniques:**

- Reviews and the test process
- Review Process
- Inspections and Walkthroughs
- Code Inspection

**Test Design Techniques:**

- Identifying test conditions and designing test cases
- Categories of test design techniques
- Specification-based or black-box techniques
- Boundary Value Analysis
- Decision Table Testing
- Equivalence Partitioning
- State Transition Testing
- Use Case Testing
- Structure-based or white-box techniques
- Code Coverage
- Decision Coverage
- Statement Coverage
- Structural Testing
- Experience-based techniques
- Error Guessing
- Exploratory Testing
- Choosing a test technique

**Test Management:**

- Test Organization
- Test Plans, Estimates, and strategies
- Test progress monitoring and control
- Configuration Management
- Risk and Testing
- Incident Management

**Other Testing Types:**

- Functional Testing
- Volume Testing
- Stress Testing
- Usability Testing
- Security Testing
- Performance Testing
- Configuration Testing
- Reliability Testing
- Recovery Testing

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## Test Management & Defect Tracking Tools

### Quality Center (QC)/HP ALM:

- Introducing Quality Center
  - The Quality Center Testing Process
  - Starting Quality Center
  - The Quality Center Window
- Specifying Releases and Cycles
  - Defining Releases and Cycles
  - Viewing Releases and Cycles
- Specifying Requirements
  - Defining Requirements
  - Viewing Requirements
  - Modifying Requirements
  - Converting Requirements
- Planning Tests
  - Developing a Test Plan Tree
  - Designing Test Steps
  - Copying Test Steps
  - Calling Tests with Parameters
  - Creating and Viewing Requirements Coverage
- Running Tests
  - Defining Test Sets
  - Adding Tests to a Test Set
  - Scheduling Test Runs
  - Running Tests Manually
  - Viewing and Analyzing Test Results
- Adding and Tracking Defects
  - How to Track Defects
  - Adding New Defects
  - Matching Defects
  - Updating Defects
  - Linking Defects to Tests
  - Creating Favorite Views

### JIRA:

- JIRA Scheme
- JIRA Issues & Types
- Components of JIRA
- Issue Attributes
- Issue Security Schemes
- Creating Issues in JIRA
- Creating Reports in JIRA
- JIRA Scrum & JIRA Kanban

## Other Topics

### Agile Methodology:

- Introduction to Agile Methodology
- Roles in Agile
- Planning & Working in Agile Team
- User Story/ Relationship of User Stories & Tasks
- Acceptance Criteria
- Defining Requirements
- Principles of Agile Manifesto
- Daily Stand-ups and its Importance
- Iterative Planning
- Release Planning
- Product Backlog

### Structured Query Language (SQL):

- Introduction to Relational Database Concepts
- Creating Tables
- SELECT Statements
- Functions & Expressions
- INSERT, UPDATE & DELETE Statements
- Joins-Inner, Left, Right & Outer Joins
- Subqueries & Unions
- SQL Summarization

### UNIX/Linux Commands:

- Basic UNIX/Linux Commands for Testers