

## Test Case Design with UML

### Objectives

- Discuss different aspects of testing
- Discuss iterative testing lifecycle
- Review requirements and use cases concepts
- Plan testing activities
- Apply testing and traceability
- Identify test cases from use cases and other requirements
- Review UML-based work products that drive testing
- Design reusable set of test procedures and data
- Discuss test tracking and reporting

### Description

*Test Case Design with UML* teaches best practices for performing effective testing in the iterative development lifecycle. Beginning with an overview of testing activities and industry standards, the course continues with an overview of requirements management and use cases that provide the baseline for many testing activities. Students are introduced to types and levels of testing, testing roles and responsibilities, and test planning activities. Traceability is discussed as the basis for determining test coverage and managing change. Test case analysis is applied to deriving black box test cases from the use case model. The course continues with an overview of various UML diagrams produced during requirements and design activities that provide visibility into additional areas to test. Test procedures are discussed and their relationship to test procedures and test data. The course finishes with an overview of testing execution and reporting activities including defect analysis and test measurement. Students are provided with numerous opportunities to apply all these concepts and techniques with hands-on classroom exercises.

### Course Outline (Modules and Topics)

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| <ul style="list-style-type: none"> <li>• Test Overview               <ul style="list-style-type: none"> <li>• Testing purpose and approach</li> <li>• Industry standards for testing</li> <li>• Test work products</li> <li>• Test strategy</li> </ul> </li> <li>• Requirements Overview               <ul style="list-style-type: none"> <li>• Definition of requirements</li> <li>• Characteristics of "good" requirements</li> <li>• Different types of requirements</li> </ul> </li> <li>• Use Case Overview               <ul style="list-style-type: none"> <li>• Vision and use case model</li> <li>• Use cases and actors</li> <li>• Supplementary specification</li> </ul> </li> <li>• Test Planning               <ul style="list-style-type: none"> <li>• Types and levels of testing</li> <li>• Testing and iterative development</li> <li>• Testing roles and responsibilities</li> <li>• Master and iteration test plans</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Traceability               <ul style="list-style-type: none"> <li>• Different types of traceability items</li> <li>• Establishing and maintaining traceability</li> </ul> </li> <li>• Test Case Analysis               <ul style="list-style-type: none"> <li>• Black box testing and use cases</li> <li>• Review test case definition</li> <li>• Identify test cases from use cases</li> </ul> </li> <li>• UML Overview               <ul style="list-style-type: none"> <li>• UML diagrams relevant to testing</li> <li>• Use case, activity, class, sequence</li> </ul> </li> <li>• Test Procedure Design               <ul style="list-style-type: none"> <li>• Test procedure definition</li> <li>• Relationship to test cases</li> <li>• Identifying test procedures and test data</li> </ul> </li> <li>• Test Execution and Reporting               <ul style="list-style-type: none"> <li>• Test log, test results, test evaluation</li> <li>• Defect analysis and test measurement</li> </ul> </li> </ul> |
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### Duration

2 days

### Course #

01-0904

### Prerequisites

- UML Fundamentals course
- Use Case Modeling Fundamentals course

### In partnership with

### Audience

- Test manager
- QA analyst
- Test designer
- System analyst
- Software architect
- Software designer
- Developer

### Continuing education

- Iterative Development Fundamentals
- Object-Oriented Analysis with UML
- Requirements Management Fundamentals

### Classroom requirements

- No computers required

Proven >>>>> Practical >>>>> Process™