

# Software Testing for Better Project Management

Many organizations wait until late in the development cycle to test new software and often limit testing due to time constraints. This approach can create pain for the project manager in the form of cost overruns, missed completion dates, overlooked requirements, undetected errors and dissatisfaction among customers and users.

In this course, you will discover why and how to integrate testing throughout the software development process in order to uncover defects, ensure performance, enhance quality and lower costs. Using a set of integrated classroom exercises beginning with requirements validation and ending with implementation, this course demonstrates how management of testing activities relates to the life cycle of projects involving software development.

Gain the necessary insight and training to develop, document and execute a project plan that incorporates an ongoing software testing program. Get specific tools to enable you to plan for and assess test results. This course is designed for project managers, test managers and anyone who must ensure the production of high-quality software delivered on schedule and within budget.

## Course Topics

1. **Software Testing**
  - a. What is testing?
  - b. Testing goals
  - c. Why are there defects?
  - d. Relation to software quality assurance
  - e. Black-box vs. white-box techniques
  - f. Test management
  - g. The role of software testing metrics
  - h. Value of reviews and inspections
  - i. Personnel issues
2. **Software Testing Across the Software Development Life Cycle**
  - a. Preparing to test
  - b. Testing activities for every phase of the life cycle
  - c. Ensuring testing is scheduled
  - d. Requirements validation and change
3. **Unit Testing**
  - a. Unit test planning
  - b. Methods
  - c. Practical techniques
  - d. Conducting the test
  - e. Analyzing results
4. **Integration and System Testing**
  - a. Integration test planning
  - b. Methods: top-down vs. bottom-up
  - c. Practical techniques
  - d. Conducting the test
  - e. Analyzing results
  - f. Applying regression testing
  - g. System test planning and methods
  - h. Conducting the test and analyzing results
  - i. Regression testing
5. **Acceptance Testing**
  - a. Acceptance test planning
  - b. Methods
  - c. Practical techniques
  - d. Conducting the test
  - e. Analyzing the results
  - f. Testing object-oriented systems
6. **Additional Testing Topics**
  - a. Commercial off-the-shelf (COTS) systems
  - b. Web-based systems
  - c. Testing in a client server environment

## Learn how to:

- Establish software testing as a critical component of the project plan throughout the development cycle
- Identify the project management considerations related to software testing activities
- Assess unit, integration, system, usability, beta, acceptance and automated testing
- Determine effective test cases and incorporate sound test management practices
- Involve users to increase validity of test results and know when to stop testing
- Counter pressures to shortchange the testing process

## PMBOK® Guide knowledge areas:

Project Scope Management  
Project Quality Management  
Project Time Management

## ACE CREDIT recommendation:

Undergraduate: 1 credit hour

PDU's: 18.0

CEUs: 1.8

CPE credits: 21

This course has been updated to reflect the PMBOK® Guide—Fourth Edition.



This course can be applied toward the Master's Certificate in Project Management with a Concentration in IT Project Management.