

Software Quality Assurance: Delivering Consistent Quality - 4 Days

Course 312 Overview

- You Will Learn How To**
- Implement and effectively lead Software Quality Assurance (SQA) activities
 - Improve customer satisfaction through quality and process initiatives
 - Analyze information through static and dynamic techniques including walk-throughs and inspections
 - Conduct audits by following a defined process
 - Control critical components using Configuration Management (CM)
 - Champion a continuous process improvement program in your organization
- Course Benefits** Systems that fail to provide adequate functionality can reduce profit, productivity and result in increased costs. Implementing and monitoring process improvement and quality initiatives can lead to cost-effective systems. This course provides the necessary skills to define, design, implement and monitor a software quality system using proven techniques that can be tailored for your organization. You also gain the skills to audit work products throughout the product life cycle.
- Who Should Attend** Software professionals, project managers, business analysts, quality analysts and others involved with developing, testing or improving the development and production of systems.
- Workshop Course** You apply proven software quality assurance techniques in a series of workshops, including:
- Discovering software quality problems
 - Applying life cycle models
 - Determining the appropriate project standards
 - Conducting walk-throughs and audits
 - Identifying configuration items
 - Designing metrics for your project
 - Comparing best practices and standards
 - Implementing process improvements

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Course 312 Outline

Introduction to Software Quality Assurance

- Contrasting roles: Software Quality Assurance, Testing, Verification and Validation
- Comparing software development life cycles
- Documenting processes
- Defining the goals of Software Quality Assurance

Software Quality Assurance Components

Analyzing the components of quality

- Creating processes
- Choosing the best practices and implementing process improvement initiatives

Implementing a road map

- IEEE
- CMMI
- ISO 9001
- CobiT[®]
- ITIL[®]
- Selecting and documenting standards
- Conducting training
- Participating in reviews and audits
- Maintaining records

Planning for Software Quality Assurance

Applying verification and validation techniques for error detection

- Evaluating verification and validation techniques
- Analyzing life cycle products
- Implementing walk-throughs
- Exploring testing techniques

Detecting defects while applying inspection techniques

- Defining the inspection process
- Planning and conducting an inspection
- Communicating inspection results

Conducting Audits

The types of audits

- Comparing process, product, project, quality-system and configuration audits
- Documenting audit findings in a report

Comparing industry standards

- Complying with industry standards and models: ISO 9001 and CMMI
- Comparing the work products against industry best practices

Verifying product configuration using configuration audits

- Demonstrating the product satisfies the requirements
- Ensuring the as-built product complies with the documentation

Improving productivity using in-process audits

- Assessing internal processes for compliance
- Analyzing processes and procedures used during development

Initiating the auditing process

- Planning and preparing for the audit
- Reporting the results
- Monitoring noncompliance

Applying Configuration Management (CM)

Defining the components of a CM system

- Identifying the workflow and work products
- Managing and controlling products for consistency
- Assessing and managing components with release management
- Communicating product status using reports

Ensuring quality by controlling CM components

- Verifying software and hardware components
- Maintaining test data for regression tests
- Tracking change requests

Participating in an SQA and CM audit

- Reviewing documentation against a standard
- Interviewing quality and configuration management personnel
- Documenting and confirming audit findings
- Presenting audit findings

Continuous Process Improvement Fostering learning through process improvement

- Defining and implementing process improvement
- Planning process improvement initiatives

Achieving excellence through metrics

- Selecting and analyzing metrics
- Analyzing data through root cause analysis
- Communicating organizational progress

Coordinating the next steps

- Implementing corrective actions
- Focusing on prevention techniques