

## **Course 309: Managing Software Development Projects (4 days)**

### **Course Description...**

A software project creates a specific, unique software product, such as an operational system, a new feature or function for an existing system, or changes or corrections to running software. Managing a software project is different than all other project management in terms of the phased approach to software development, the unique mix of people who are assembled to form a solution team, and the product itself. This course addresses the differences in managing a software development project and addresses some agile approaches to software development and to project management.

### **Learning objectives...**

- Distinguish the principles and practice of software project management from other forms of project management
- Successfully manage software development using various forms of software development life cycles such as Extreme Programming, Unified Process, and the linear models.
- Plan a software development project successfully
- Assemble and lead a cross functional solution team for software development
- Manage overall product scope and changes to the project
- Apply project management principles to agile project management approaches such as Scrum, adaptive software development, and others

### **Who should attend...**

Audience includes project managers at all levels of experience, software quality assurance professionals, and software development practitioners with an interest in developing their project management skills.

### **Prerequisites...**

No specific prerequisites are needed.

**See next page for a detailed course outline...**



## Course Outline...

### Unit 1: Project Management and Software Development

#### Project Management Concepts

- Project definition
- Project management definition
- The Project Management Body of Knowledge

#### Software Project Management

- The properties of software
- The vagaries of software development and software maintenance
- The difference between project management and software project management
  - Software project life cycle phases
  - Software project stakeholders
  - Organizational influences
- Software development life cycles
  - Linear
  - Iterative
  - Incremental
  - Agile
- Management skills needed for software project management

#### Unit summary and best practices

### Unit 2: Assembling the Software Project Team

#### Defining The Team

- Skill set
- Division of labor
- Defining the team operations

#### Full Time Players

- Business analyst
- System analyst
- Developers

#### Temporary Players

- Testers
- Designers

#### Part Time Players

- Quality Assurance
- Architects
- DBA

#### Roles of the Business Community

- Customer
- Product Stakeholders

#### Unit summary and best practices

### Unit 3: Software Project Scope Definition and Management

#### Defining the Scope

- The business case
- The project charter



- The requirements

## **Software Project Planning**

- The planning process
- Developing the plan with the team
- WBS
- Precedence networks
- Estimating software development costs
- Estimating the software development schedule
- Committing to the plan
- Alternatives to single delivery plans
  - Time box approach to estimating
  - Iterative development
  - Partial deliveries

## **Controlling Scope**

- Scope Management
- Change Control Procedures
- Releases and release management
- Alternatives to formal change management procedures
  - Iterative development
  - Incremental Delivery

## **Unit summary and best practices**

## **Unit 4: Managing to the Plan**

### **Software Project Risk Management**

- Risk identification
- Risk quantification
- Risk response development
- Risk response control

## **Unit summary and best practices**

## **Unit 5: Software Quality Management**

### **Quality Assurance**

- Policy or practice
- Quality Gates
- Quality Control
- Collaboration as quality control

### **Inspection concepts**

- Forms of review
- Benefits of inspection
- Inspection procedures
- Checklists for quality

### **Testing concepts**

- Traditional testing approaches
- Alternatives to traditional testing mechanisms
  - Test First approaches
  - Automated unit testing with xUnit
  - Test Driven Development



- Continuous Integration
- Automated acceptance testing with FIT

## **Including user feedback as a control mechanism**

- Deciphering user feedback
- Control and collaboration

## **Unit summary and best practices**

# **Unit 6: Software Development Team Management and Communications**

## **Software Project Team**

- Diversity
- Staff acquisition
- Team development
  - Composition of a team
  - Belbin roles
  - Tuckman evolution
  - Managing and coaching the team
- Team size and complexity
- Delegation

## **High Performing Teams**

- Team leadership perspectives
- Team motivation and recognition

## **Communicating**

- Receiving team status
- Reporting to management
- External team communication
- Meetings

## **Alternatives to team management**

- Self organizing teams
- Project management as coach
- Software development without a project manager

## **Unit summary and best practices**

# **Unit 7: Alternatives to Traditional Software Development**

## **Project Management**

- Agile project management
  - Agile manifesto
  - Declaration of interdependence
  - Principles of agile project management
  - Practices of agile project management
- Extreme Programming
  - Twelve Practices
  - Documentation
  - Process
  - Iterative planning
  - Pair programming
  - Simple design



- Scrum
  - Background
  - The Scrum pattern
  - Principles
  - The Sprint
  - The Scrum meeting
  - The backlogs

**Unit summary and best practices**

## **Unit 8: The Bottom Line**

- Ideas to use
- Where to go for more information

***Please contact your ROI representative to discuss course tailoring!!!***