

# IT PROJECT MANAGEMENT COURSES

- Managing IT Projects
- IT Risk Management
- Software Testing for Better Project Management
- Network and Telecom Principles for Project Managers
- Systems Integration Project Management
- Agile Project Management

## Participants will learn how to:

- Define the role of the IT project manager
- Develop a results-driven project management team
- Identify, interpret, and manage the real project requirements
- Develop a focused project plan to manage IT Projects
- Estimate IT project costs and schedules using proven techniques
- Find solutions to problems specifically related to IT projects

## PMBOK® Knowledge Areas:

- Project Integration Management
- Project Scope Management
- Project Quality Management
- Project Time Management
- Project Cost Management
- Project Human Resources Management
- Project Communications Management
- Project Risk Management

## Programme Objectives

Today's IT projects present unique challenges to the project manager requiring coordination with many stakeholders and integration of various technological capabilities. In *Managing IT Projects*, participants will discover critical success factors and hidden risks inherent in IT projects and they will leave with an understanding of strategies and techniques developed in the field by experienced IT project managers for successfully managing IT projects.

"IT" means different things to different people. This course addresses all areas of IT project management: hardware, software, systems integration, communications, and human resources. It addresses the role of the project manager and the project team at each phase of the project life cycle, helping them to gain the foundation, basic experience, techniques and tools to manage each stage of the project. Participants will learn techniques to determine customer requirements, set goals tied directly to stakeholder needs, get the most from the project management team, and utilise project management tools to get work done on time and within budget.

By extending traditional project management concepts into the IT arena, participants will gain an understanding of the strategies and skills necessary to manage IT projects of any size. And they will take home powerful tools to enhance their IT project management capabilities, as well as written text in the course binder explaining the concepts in each unit for reference when they return to the workplace. In addition, participants will receive *Project Management Terms: A Working Glossary*, by J. Leroy Ward, PMP.

Participants will learn IT project management skills through hands-on exercises, interactive case studies, and relevant discussions with their peers and an experienced IT project management instructor. This approach allows them to practice new skills and ask questions as they assimilate a broad array of practical experiences that can immediately be applied when they return to the workplace.

**Reminder:** Participants taking this course should not take *Managing Projects*.

## Course Outline

### Overview of IT Project Management

- Definition and characteristics of IT project management
- Common reasons why IT projects fail
- Critical factors for IT project success
- The IT project life cycle and the activities of each life cycle phase
- Project processes common to all projects

### Concept Phase

- Selecting and funding IT projects
- Identify key project stakeholders
- Describe the purpose and content of a IT business case
- Prepare a project charter

### Requirements Phase

- Identify and articulate customer requirements
- Distinguish between functional and technical requirements
- Use different methods for gathering requirements
- Develop a requirements traceability methodology

### Planning Phase

- Identify the key components of the project plan and the planning process
- Construct a work breakdown structure showing all work components
- Build a project schedule
- Estimate duration, resources, and costs
- Describe risk management planning and risk response planning
- Describe subsidiary management plans including communications, procurement, and quality

### Design Phase

- Describe the major activities of the preliminary and detailed design activities
- Identify typical content of the technical specification document
- Identify some design techniques use in developing the technical solution
- Describe make or buy decision methodology

### Construction Phase

- Develop a project team to build and deliver the product
- Describe quality assurance activities, testing and audits
- Assess project performance
- Develop and use a change request methodology
- Develop risk response strategies

### Delivery Phase

- Describe the key activities of the delivery phase
- Describe four major product/system conversion strategies
- Understand the "go-live" transition responsibilities of the project manager
- Develop scope verification and customer acceptance strategies

**Participants will learn how to:**

- Use a practical, eight-step process to manage IT project risk
- Identify threats and opportunities and weigh their relative value in your project
- Develop practical response strategies for common IT project risks
- Overcome stakeholder and team member roadblocks to risk strategy implementation
- Make risk and opportunity integral components of your next IT project plan

**PMBOK® Knowledge Areas:**

- Project Time Management
- Project Risk Management
- Project Cost Management
- Project Procurement Management

**Programme Objectives**

The unique challenges of IT projects make it mandatory that a successful IT project manager be a skilled risk manager. Risk will always exist in IT projects given the need to deal with challenging requirements and expectations, complex and ever-changing technologies and business needs, and aggressive schedules and budgets to support business success. However, it is not inevitable that risk management will be an impossible task that will result in your being viewed as reactive, or worse, unresponsive. In *IT Risk Management*, participants will learn to look at risk management as a way to seize opportunities, minimise threats and achieve optimum results. Participants will work through the proactive approach to threat and opportunity—based on a clear understanding of the powerful nature of both qualitative and quantitative approaches to risk management.

*IT Risk Management* examines threat and opportunity from the perspective of ESI's proven eight-step risk management process. Using effective tools, including ESI's highly regarded risk assessment model, participants will learn how to evaluate and respond to risk at the project and task levels. They will apply these tools from the course material to analyse and classify risks, determine how to establish an acceptable level of risk and develop a practical risk response plan.

Included in the course is a multi-part case study that takes the participant from a risk overview at the beginning of an IT project through the challenges of ongoing assessment and reassessment of threats and opportunities throughout the project. Included in the participant course material is comprehensive reference material that is specific to each unit of the course.

**Reminder:** Participants taking this course should not take *Risk Management*.

**Course Outline****The Basic Foundations of Risk Management**

- Definition and characteristics of risk
- Elements and factors of risk
  - Event (future occurrence)
  - Probability (uncertainty)
  - Impact (amount at stake)
- Types of risk
- Components of risk management
  - Identification
  - Quantification
  - Response development
  - Response control

**Establishing an IT Project Risk Management Process**

- Risk Management planning
- Identifying, analysing, and prioritising risks
- Planning for risk response
- Executing the risk response plan
- Evaluating risk response
- Documenting risk response results

**Planning and Identifying Risks**

- Risk identification
- Idea generation tools and techniques
- Business versus pure risks
- Financial risks
- Schedule risks
- Technical risks
- Legal risks

**Performing Risk Assessment**

- Determining risk tolerances
- Analysing risks
- Establishing and evaluating profitability
- Risk-based financial tools and techniques
- Expected-value analysis
- Decision trees
- Probability analysis
- Risks versus opportunities
- Prioritising risks

**Developing Risk Responses**

- Risk response strategies for opportunities and threats
- Risk acceptance
- Risk avoidance
- Risk mitigation
  - Probability minimisation
  - Impact minimisation
  - Transference
- Establishing reserves

**Implementing Risk Responses**

- Communicating risk issues
- Documenting risk management practices
- Reassessing risk
- Decision-making processes

**Risk Applications**

- Statistical analyses
- Risk simulations
- Risk tools

## Participants will learn how to:

- Establish software testing as a critical component of the project plan throughout the development cycle
- 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 short change the testing process

## PMBOK® Knowledge Areas:

- Project Scope Management
- Project Quality Management
- Project Time Management

## Programme Objectives

Many organisations 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, participants will discover why and how to integrate testing throughout the software development process in order to uncover bugs, 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 of projects.

Participants will gain the necessary insight and training to develop, document and execute a project plan that incorporates an ongoing software testing program. They will get specific tools to enable them 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.

Participants will also receive a copy of the best-selling book, *Software Testing* by Ron Patton.

## Course Outline

### Software Testing

- What is testing?
- Testing goals
- Software fault and failures: where do "bugs" come from?
- Relation to software quality assurance
- Black-box vs. white-box testing
- Test management
- The role of software testing metrics
- Value of reviews and inspections
- Personnel issues

### Software Testing Across the Software Development Life Cycle

- Preparing to test
- Testing activities for every phase of the life cycle
- Ensuring testing is scheduled

### Requirements Validation

- Recognising testable requirements
- Dealing with fuzzy requirements
- Dealing with changing requirements

### Unit Testing

- Unit test planning
- Methods

- Practical techniques

- Conducting the test
- Analysing results

### Integration Testing

- Integration test planning
- Methods: top-down vs. bottom-up
- Practical techniques
- Conducting the test
- Analysing results
- Applying regression testing

### System Testing

- System test planning
- Methods
- Practical techniques
- Conducting the test
- Analysing the results
- Applying regression testing

### Usability Testing

- Purpose of usability testing
- Costs and benefits of usability testing
- Usability evaluation criteria
- Usability test methods
- Usability metrics
- Conducting the test
- Analysing the results

### Acceptance Testing

- Acceptance test planning
- Methods
- Practical techniques
- Conducting the test
- Analysing the results

### Testing Object-Orientated Systems

- Differences from traditional testing
- Testing objects and classes
- How inheritance affects testing

### Testing Commercial Off-the-Shelf Packages

- Types of testing that can be done
- A practical approach

### Testing Web-based Systems

- Browsers
- Distributed computing
- Test environmental challenges

## Participants will learn how to:

- Identify the project management considerations inherent in network and telecommunications projects
- Understand the basics of the technology available for local area network (LAN) and wide area network (WAN) data communication projects
- Communicate effectively with data communications managers, customers and users
- Fit network design to match organisational needs
- Understand fundamental principles of network security
- Assess and mitigate risks inherent to network and telecommunications projects

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## PMBOK® Knowledge Areas:

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## Programme Objectives

The proliferation of networking systems is forcing IT project managers to learn about voice and data networks on the fly. A growing global economy is making unprecedented demands of organisations' data communications capabilities. Project managers must understand and converse intelligently with project team members, vendors, and customers to understand and meet requirements.

In *Network and Telecom Principles for Project Managers*, participants will learn the fundamental principles in data networks with an emphasis on incorporating communication capabilities in information systems design. They will learn how network and telecommunications technologies are evolving and how communications systems function and integrate with existing architectures.

Participants will explore how standards apply to networks and which constraints influence the design and implementation of network and telecommunications projects.

Participants will get the background they need to identify and handle the risks, constraints, resourcing, and scheduling aspects of network and telecommunications projects.

Each course participant receives a copy of *Business Data Communications* by William Stallings and Richard Van Slyke.

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## Course Outline

### Telecommunications Environments

- Telecommunications project challenges
- Project management issues
- Environmental issues
- FCC regulations
- Impact of laws on telecommunications

### Requirements Definition

- When to do requirements definitions
- Assessment process
- Steps to develop requirements

### Local Area Networks

- Understanding networks
- LAN considerations for project managers
- LAN components
- Configurations and topologies
- Storage area networks and client servers

### Wide Area Networks

- The Open System Interconnection Model
- WAN backbone network
- ATM—Asynchronous Transfer Mode
- Regional networks

### Internetworking, Voice and Wireless

- Bridges and routers
- Design consideration
- Building vs. campus voice services
- Wireless networks

### Building and Cabling

- Floor distribution systems
- Equipment and safety
- Ceiling distribution systems
- Central equipment space

### Network Security

- Network security plan
- Risk assessment and analysis
- Security Tools
- Access controls
- Emergency/incident response

### Risk Management for Telecommunications Projects

- Risk management process
- Four components of risk
- Categorising risks
- Risk factors
  - Resource
  - Organisation
  - Political
  - Environmental
  - Project

## Participants will learn how to:

- Plan, estimate, and organise system integration efforts
- Apply the decomposition-integration paradigm to manage complexity
- Manage the implementation of complex system interfaces
- Assess and respond to the risks inherent in integration projects
- Focus on the business emphasis of system integration

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- Project Cost Management
- Project Risk Management
- Project Procurement Management
- Communications Management

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## Programme Objectives

Today's information technology project manager faces projects of increasing size, complexity and risk. Project managers must make sure that all of the components come together and see that the project is completed on time and within budget.

Yet the definition of "all the components" keeps getting broader and more complex. More and more IT projects depend on critical systems integration (SI) issues, including client/server development, open systems design, enterprise solution implementation, legacy systems maintenance and multi-site deployment.

Now participants can identify and explore the complex technical and business issues involved in integrating custom software, hardware solutions, telecommunications networks, commercial off-the-shelf software (COTS), business procedures and services, and support facilities.

Through an interactive case study and classroom discussions, participants will experience what it takes to be the project manager on a typical SI project. They will develop an understanding and appreciation of the problems that can occur and explore ways to solve them. Participants will also gain an understanding of the critical need for a systems integration project manager on large IT projects in the real world.

If you face a future assignment as a systems integration project manager, this course will give you tools and techniques needed for survival.

**Reminder:** Participants should have completed at a minimum an introductory course in project management such as *Managing IT Projects* or *Managing Projects*.

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## Course Outline

### What is Systems Integration (SI)?

- Systems Integration and SI projects
- Typical SI projects
- Importance of SI project management

### Process Evaluation

- Managing the complexity of SI projects
- Decomposition and delegation as key paradigms in SI
- Value of formal methods, processes and skills for managing SI projects

### SI Project Organisation

- Creating effective SI WBS
- Developing effective SI project teams
- Organising for SI projects

### Controlling SI Projects

- Estimating for SI projects
- Define SI metrics for project performance measurement
- Process mapping
- Interaction complexity in SI projects

### Integration Risk Management

- SI risk management
- Tools for managing SI complexity
- Configuration and integration management

### SI Execution Management

- SI project execution
- Requirements analysis
- Procurement considerations
- Execution change analysis

### Integration and Testing Management

- Testing concerns for SI
- Managing testing issues
- Creating test plans

### SI Deployment Management

- Key system deployment issues in SI projects
- Single and multi-site deployment
- Options for predictable crises

### SI Project Closeout

- SI closeout issues
- The SI project closeout plan

## Participants will learn how to:

- Select which projects are suitable for an agile environment
- Determine the readiness of an organisation, team, customer and project manager
- Define user stories and how to elaborate and define test cases to assure the customer's requirement
- Plan releases, estimate iterations by providing story point estimates for each feature and determine the team's velocity
- Plan for risks
- Provide status reports to management through burndown charts, iteration tables, agile earned value management and so on
- Adapt changes based on the customer's request and effectively enhance the process to manage those changes
- Determine when a project should be terminated

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- Project Communications Management

## Programme Objectives

Today, global businesses want and need to be able to deliver products to the market faster. As new projects are selected by the organisation or management, it is important to determine whether a traditional or agile project management approach is appropriate. For a project to succeed, the organisation needs to support the process, customers need to be involved daily, teams need to be creative and self-disciplined, and project managers need to be able to facilitate and lead the team. Working in an agile environment means being able to quickly deliver the customers' features on time and be able to respond to their needs by balancing flexibility and stability in this ever-changing world.

Agile Project Management will help you:

- Decide if your organisation is ready to accept estimates and status reports that are different from previous projects
- Determine whether your customer will be an active participant on a daily basis
- Identify any shortcomings your global team may have
- Determine if the project manager has the skills and characteristics needed to lead an agile project

Through an integrated case-study, participants will have the opportunity to select a project for agile development and work through the life cycle of an agile project.

## Course Outline

### Introduction to Agile Project Management

- What is agile project management?
- History of agile movement
- Agile manifesto
  - Principles behind the agile manifesto
- Common myths about agile project management
- Characteristics of an agile project
- When not to use agile development
- Strengths and challenges of agile development
- Variants of agile methods

### Traditional Approach Versus Agile Approach

- Traditional project management
- Agile project management
- Traditional vs. agile methods
- Phases of an agile project
- Agile project skills
- PMBOK® Guide knowledge areas
- PMBOK® Guide process groups

### Developing the Agile Environment

- Agile culture
- Management challenges to agile adoption
  - Transition process for management
- Team challenges to agile adoption
  - Distributed team challenges
- Stakeholder/customer challenges to agile adoption
- Agile approach to hybrid environments
- The agile project manager
- Characteristics of an agile project manager
- Skills required to lead an agile project

### Envisioning the Agile Project

- Agile approach to the requirement process
- The envisioning process
- User story development
- Release planning
- Prioritising feature for a release
- Iterations in releases

### Building an Iteration

- Iteration planning
  - Allocating work
  - How far in advance do you plan?

- Estimating for an Iteration
  - Rough order of magnitude
  - Velocity
  - Story points
  - Time box
  - Delivery schedule
  - Planning poker
- Managing Risks
- Tracking iteration Progress
  - Daily standup meeting
  - Iteration delta tables
  - Burndown charts
    - Reading a Burndown chart
    - Release Burndown chart
    - Iteration Burndown chart
  - Progress reports
  - Running test procedures
  - Agile EVM

### Managing Iteration Changes

- Introducing change to an iterative process
- Integrating change into the product
- Balancing change
- Closing out an agile project
- Early termination of an agile project
- Project closeout retrospective



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