Project Management Foundation Curriculum

Project Management Fundamentals - Basic Planning

Planning is the basic tool used by project planners and managers, and often is the primary service they provide to their organization. Too often project management is seen as equivalent to scheduling, where expertise with a particular software package passes for skill in planning.

Before a project planner or manager embarks on a new project, it is imperative that they understand the basic elements of planning in order to construct a network schedule that is appropriate, viable, and containable within the allowable time frame. No matter how adept an individual may be with any special project management computer tool, it is only when they comprehend the calculations being performed by the computer that they can become expert in analyzing and directing the project to a successful conclusion.

This half-day course is the first in a series of classes in project management fundamentals offered by IMSI. The follow-on classes build on the foundation built in this course, introducing increasing levels of sophistication within the total realm of planning.

Who should take this course?

- Managers who supervise or hire project managers
- Personnel whose responsibilities include interfacing with or supporting project managers
- Engineering managers and supervisors responsible for delivering new products
- Newly assigned (first time) project managers
- Newly assigned / assembled project teams
- Experienced project managers assigned to guide and mentor new project engineers or managers.

PDU's Awarded:

Each participant will be awarded 4 Professional Development Units (PDU) upon the successful completion of this course.

Course Description

By taking a fundamental approach to project management, this course ensures that every student acquires an understanding of what is needed to create a basic project plan, and can perform all of the necessary calculations by hand. This course relies upon an Instructor led discussion of the basics of project planning and a series of classroom exercises, completed individually or in small groups. Each student will be provided with a pad of project calculation worksheets, a timing wheel, and a copy of IMSI's Course Packet and classroom exercises.

Lesson 1: Why plan?

- What must be done?
- How long will it take?
- Deliverables: Gives & Gets

Lesson 2: Defining project scope, tasks

- Creating a work breakdown structure (WBS)
- Exercise #1 - WBS

Lesson 3: Estimating task durations

- Calculating a task duration
- Adjustments to duration
- Exercise #2 - Durations

Lesson 4: Creating a critical path method (CPM) schedule

- Defining constraints
- Defining lags

Lesson 5: Doing CPM schedule calculations

- Doing schedule calculations - early dates
- Exercise #3 - Doing schedule calculations (early dates)
- Doing schedule calculations - late dates
- Doing schedule calculations - total float
- Exercise #4 - Doing schedule calculations (late dates, total float)

Lesson 6: Defining CPM terms

- Recap definitions of ES, EF
- Recap definitions of LS, LF
- Recap definitions of TF
- Recap definitions of constraint types

Lesson 7: The Critical Path

- Exercise #5 - Doing schedule calculations (critical path

Lesson 8: Doing a Schedule Update

- Updating project status
- Exercise #6 - Doing schedule updates

Lesson 9: Doing a schedule impact analysis

- “What if" analysis
- Exercise #7 - Analyzing schedule impacts

Lesson 10: Creating, using schedule templates

- What is a template?
- Why create them?

Lesson 11: Summary

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IMSI
Project Planners & Managers

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Project Management Fundamentals - Advanced Planning

Often a project schedule will indicate a complicated, iterative task as a single "Big Long Bar," spanning multiple time units. The "Big Long Bar" can show progress toward completion, but usually only as percent of time (duration) consumed. It is desirable to understand and communicate progress toward actual success, rather than just time spent. Work-in-progress metrics, and earned value curves are special tools used by project planners and managers to examine and evaluate how well their projects are tracking to completion.

This course provides students with a methodology for deconstructing a "Big Long Bar" into its critical elements, evaluating each of these elements, and then preparing a progress curve for management reporting. The course work also closes the loop back to the project schedule to assess the downstream impact of the progress status.

This half-day course is the second in a series of classes in project management fundamentals offered by IMSI. It builds on the foundation built in the previous course, introducing increasing levels of sophistication within the total realm of planning and project control. More experienced project planners or managers can take this course, without taking the Basic Planning class.

Who should take this course?

- Managers who supervise or hire project managers
- Personnel whose responsibilities include interfacing with or supporting project managers
- Engineering managers and supervisors responsible for delivering new products
- Newly assigned (first time) project managers
- Newly assigned / assembled project teams
- Experienced project managers who want to expand their personal PM tool kits
- Experienced project managers assigned to guide and mentor new project engineers or managers.

PDU's Awarded:

Each participant will be awarded 4 Professional Development Units (PDU) upon the successful completion of this course.

Course Description

By taking a fundamental approach to project management, this course ensures that every student acquires an understanding of what is needed to create a project monitoring plan, to effectively utilize work-in-progress measurements and reports, and can perform all of the necessary calculations by hand. This course relies upon an Instructor led discussion of the basics of project planning and a series of classroom exercises, completed individually or in small groups. Each student will be provided with a copy of IMSI's Course Packet and classroom exercises.

Lesson 1: Recap Basic Planning

- Work breakdown system (WBS)
- Durations
- Constraints
- Schedule calculations (ES, EF)
- Schedule calculations (LS, LF, TF)
- Updating & analyzing impacts
- Templates

Lesson 2: Using earned value, event tracking, and progress curves

- What's a progress curve?
- Developing a progress curve
- Exercise #1 - Using progress curves (early dates)
- Exercise #2 - Using progress curves (late dates)
- Establishing the planned curve
- Calculating earned value
- Exercise #3 - Earned value curve

Lesson 3: Analyzing progress

- Using progress curves - past, present, future
- Using progress curves - schedule updates
- Using progress curves - spent curve
- Using progress curves - event curve
- Using progress curves - tabular versions

Lesson 4: Understanding the general (product development) process

- Product development & project management
- Product development processes
- Project management processes

Lesson 5: Understanding the role of project planning support

- Coordinating interfaces between teams
- Implementing a typical planning process on a large project
- Designing useful planning reports

Project Management Foundation Curriculum

Project Management Fundamentals - Resource Planning

Planning is the basic tool used by project planners and managers, and often is the primary service they provide to their organization. Too often project management is seen as equivalent to scheduling, where expertise with a particular software package passes for skill in planning.

Before a project planner or manager embarks on a new project, it is imperative that they understand the basic elements of planning in order to construct a network schedule that is appropriate, viable, and containable within the allowable time frame. No matter how adept an individual may be with any special project management computer tool, it is only when they comprehend the calculations being performed by the computer that they can become expert in analyzing and directing the project to a successful conclusion.

This half-day course is the first in a series of classes in project management fundamentals offered by IMSI. The following classes build on the foundation built in this course, introducing increasing levels of sophistication within the total realm of planning.

Who should take this course?

- Managers who supervise or hire project managers
- Personnel whose responsibilities include interfacing with or supporting project managers
- Engineering managers and supervisors responsible for delivering new products
- Newly assigned (first time) project managers
- Newly assigned / assembled project teams
- Experienced project managers assigned to guide and mentor new project engineers or managers.

PDU's Awarded:

Each participant will be awarded 4 Professional Development Units (PDU) upon the successful completion of this course.

Course Description

By taking a fundamental approach to project management, this course ensures that every student acquires an understanding of what is needed to create a basic project plan, and can perform all of the necessary calculations by hand. This course relies upon an Instructor led discussion of the basics of project planning and a series of classroom exercises, completed individually or in small groups. Each student will be provided with a pad of project calculation worksheets, a timing wheel, and a copy of IMSI's Course Packet and classroom exercises.

Lesson 1:

- Estimating task resource requirements
- Aggregating resource requirements
- Leveling resources
- Assessing impacts and alternativese
- Dealing with resource constraints
- Dealing with limited response
- Resource planning across multiple projects