Crosswind Learning

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Project Management Professional (PMP)® Exam

Crosswind Success Series: PMP® Exam Bootcamp Manual

www.crosswindpm.com
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Version 6.1 aligned with the Project Management Institute, *A Guide to the Project Management Body of Knowledge, (PMBOK® Guide)* - Sixth Edition, Project Management Institute Inc., 2017

Chapter 11

Project Schedule Management

The intended result of Project Schedule Management is a schedule and a schedule management plan that details the timing and the manner in which project products, services, and results are delivered in accordance with the project scope. The plan is an important reference for communication and management of stakeholder expectations and is the foundation for performance reporting.

Once a scheduling method has been selected, pertinent information (activities, planned dates, durations, resources, dependencies, constraints, and milestones) is entered into the scheduling tool to create a scheduling model. The scheduling model becomes the project schedule once dates are assigned and the team is ready to execute the project. In practice, both the schedule model and the schedule are typically referred to as the schedule.

For small projects, defining activities, sequencing activities, estimating activity durations, and developing the schedule model can be viewed as a single process since these can be performed by a single person relatively quickly. For larger projects, these processes are distinct since the tools and techniques vary with each process.

The detailed project schedule should be flexible throughout the project, whenever feasible, because adjustments will undoubtedly be made as project knowledge evolves, non-value-added activities are decreased, and risk is better understood.

For the exam, Crosswind recommends a thorough examination of each process with an emphasis on the tools and techniques, as well as the impact that the outputs of one process has on its subsequent process.

Trends

The two most notable trends currently impacting scheduling are:

- Iterative scheduling with a backlog: a type of rolling wave planning used in adaptive project management (such as Agile) to deliver incremental value to the customer during an iteration (usually a 2-4 week period)
  The schedule is based on project requirements that are documented with user stories. User stories are prioritized and clarified to define the requirements for product features that are developed within a defined work period (a time-boxed period). The backlog is the list of features that have yet to be developed during the current increment.
- On-demand scheduling: an approach typically used in a Kanban system to limit the team's work in progress in order to balance demand against throughput
  The schedule is subject to the availability of resources: work is pulled from a backlog or work queue based on the theory of constraints and pull-based scheduling concepts used in lean manufacturing.

The role of the project manager remains the same whether the project management approach is predictive or hybrid (an approach using predictive and adaptive methods). Success, however, is dependent upon the project manager's mastery of process tools and techniques and an understanding of how the adaptive practices impact the management of the project.

Tailoring

Project tailoring, the manner in which processes of a knowledge area are exercised, is employed to address the distinctive nature of each project. Successful project tailoring is predicated on a careful consideration of:

- The life cycle approach employed
- The availability of resources
- The complexity of the project (including such elements as technological uncertainty, progress tracking, and product novelty) and its impact on the desired level of control
- Technological support

Agile/Adaptive Environment

Agile methods employ short cycles (typically two to four periods) to perform the work, review the results, and, if necessary, adapt. Such cycles support rapid feedback on the scheduling methods (typically based on iterative scheduling or on-demand, pull based scheduling).

The source for the above text is the Project Management Institute, *A Guide to the Project Management Body of Knowledge*, (*PMBOK® Guide*) – Sixth Edition, Project Management Institute Inc., 2017, Pages 172-178

In this chapter, we discuss the following:

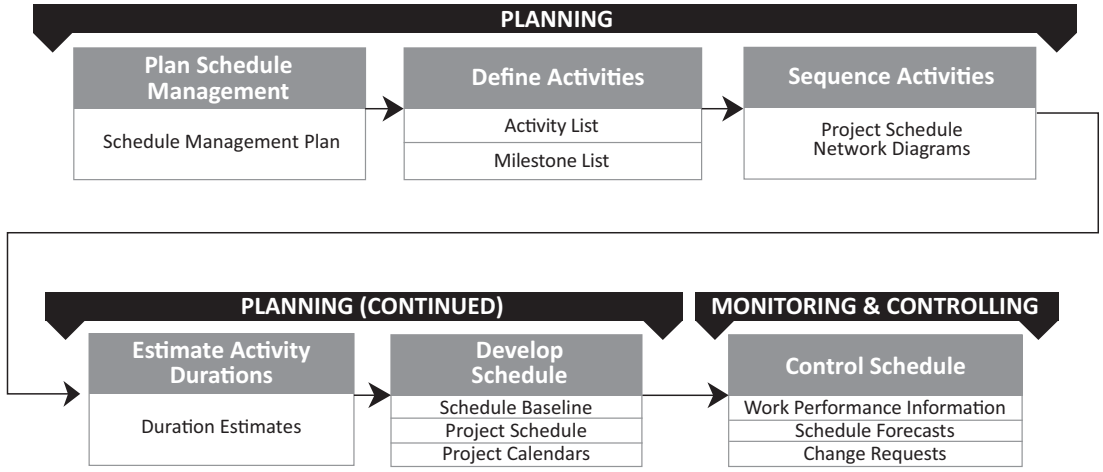

Figure 11-1: Schedule Processes

The source for the above figure is the Project Management Institute, *A Guide to the Project Management Body of Knowledge*, (*PMBOK® Guide*) – Sixth Edition, Project Management Institute Inc., 2017, Figure 6-1, Page 174

☑	Crosswind "Must Knows" For Project Schedule Management
	Key Inputs, Tools & Techniques, and Outputs for Plan Schedule Management
	Key Inputs, Tools & Techniques, and Outputs for Define Activities
	Key Inputs, Tools & Techniques, and Outputs for Sequence Activities
	Key Inputs, Tools & Techniques, and Outputs for Estimate Activity Durations
	Key Inputs, Tools & Techniques, and Outputs for Develop Schedule
	Key Inputs, Tools & Techniques, and Outputs for Control Schedule
	Concepts of rolling wave planning, control accounts, and planning packages
	Characteristics of the four dependencies (mandatory, discretionary, internal, and external)
	Principles of a network diagram, how to draw a diagram based on a word problem, and how to analyze a diagram from a pop-up screen using either the precedence diagramming method (PDM) or arrow diagramming method (ADM)
	Differences between the precedence diagramming method (PDM) and the arrow diagramming method (ADM)
	Concepts of the GERT (Graphical Evaluation Review Technique) diagramming method
	Four predecessor types (finish-to-start, finish-to-finish, start-to-start, and start-to-finish)
	Definitions of lead and lag
	Characteristics of the estimating methods: analogous, bottom-up, parametric, and computerized
	Concepts of the PERT estimating method and that PERT stands for Program Evaluation Review Technique
	How to recognize a critical path and why it is important
	Characteristics of free slack (free float), total slack (total float), and project slack (project float)
	Concepts of CPM (critical path method) estimation
	How to do a forward pass and a backward pass substitution technique on a network diagram
	Characteristics and benefits of "crashing" and "fast tracking"
	Characteristics of a logic bar chart (Gantt chart)
	Characteristics of a milestone schedule including its zero duration
	Characteristics of a summary schedule

Although helpful, this list is not all-inclusive in regard to information needed for the exam. It is only suggested material that, if understood and memorized, may increase your exam score.

11.1. Plan Schedule Management (Planning Process Group)

Know the Key Inputs, Tools & Techniques, and Outputs for Plan Schedule Management.

The plan schedule management process is used to create the schedule management plan, which can be formal or informal and provides guidance for creating an appropriately detailed schedule, **establishing control thresholds**, and **updating/modifying the schedule as necessary**. The schedule management plan is part of the project management plan.