

MGMT 8020 Project Planning and Scheduling - 16 hours (1.6 CEUs)

COURSE OBJECTIVES

After completing this course, students will know:

- A step-by-step method for planning and scheduling your projects
- How to enter tasks and time durations in Microsoft® Project
- How to connect tasks and build a working project model
- How to enter resources and assign them to tasks

PREREQUISITE

MGMT 8010 Introduction to Project Management/Instructor's approval

TEXTS

A Guide to the Project Management Body of Knowledge (PMBOK® Guide), 6th Edition, Project Management Institute, 2016

Microsoft® Project 2016 Step by Step, Microsoft® Press, 2016

INSTRUCTOR

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Module 3

Module Objectives

The objectives of this module are:

- Learn how to construct a Gantt (bar chart) schedule
- Use Microsoft® Project to enter resources

Reading Assignment

Microsoft® Project Step by Step, Chapter 5

Step 6 - Gantt (Bar Chart) Schedule

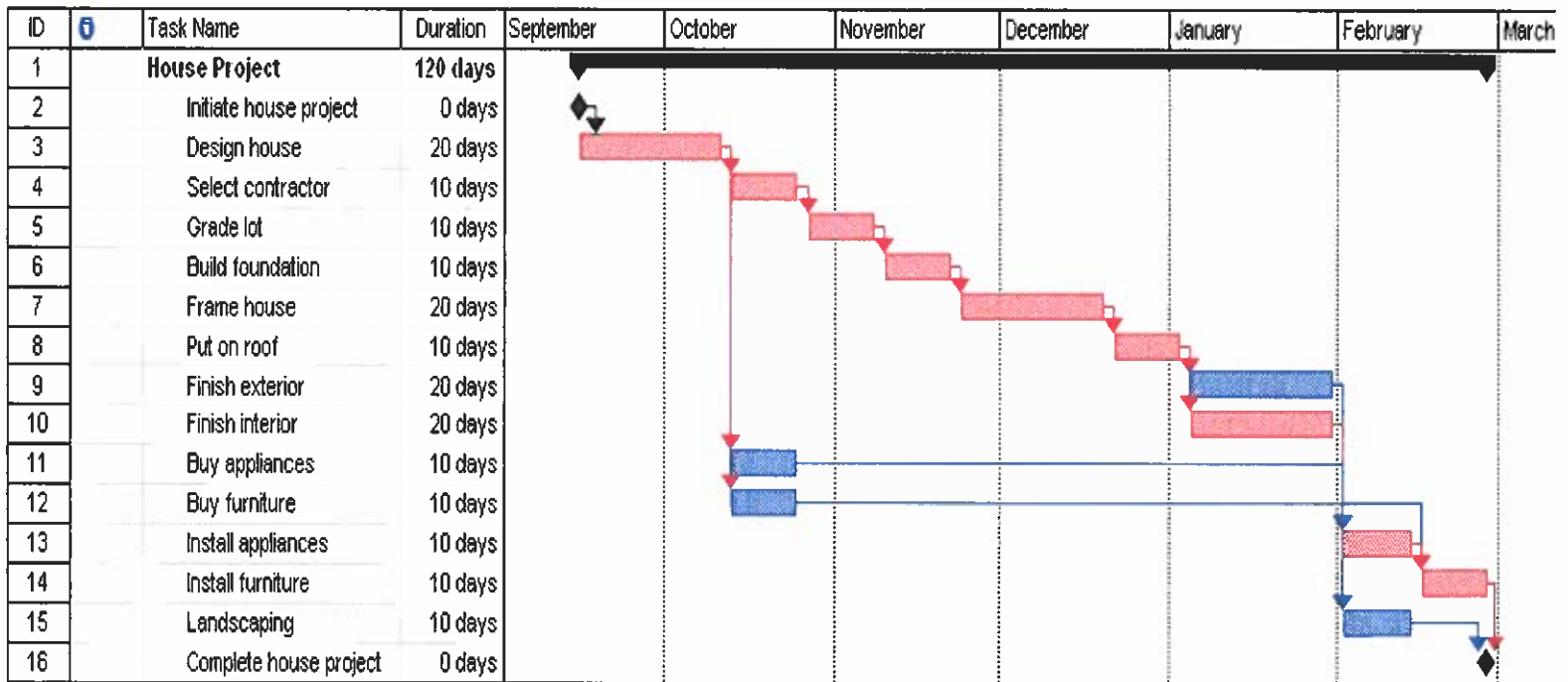
A Gantt (bar chart) schedule lists the tasks on the left side of the chart and shows the tasks as bars on a horizontal time scale. It is useful for:

- graphically depicting the time-phasing of tasks
- tracking progress of the tasks

It is not as good for showing the logic of the project as the project network diagram.

Example Gantt (bar chart) schedules are shown in Figure 6-21 of the *PMBOK® Guide*.

If we look at a Gantt (bar chart) schedule of the House project, it would look like the following chart, with the Critical Tasks on the Critical Path shown in red. The tasks on the non-critical or feeding paths are shown in blue. This chart indicates that the House project started by mid-September should finish near the end of February.



Gantt (Bar Chart) Schedule for House Project

Calculation of Schedule Contingencies

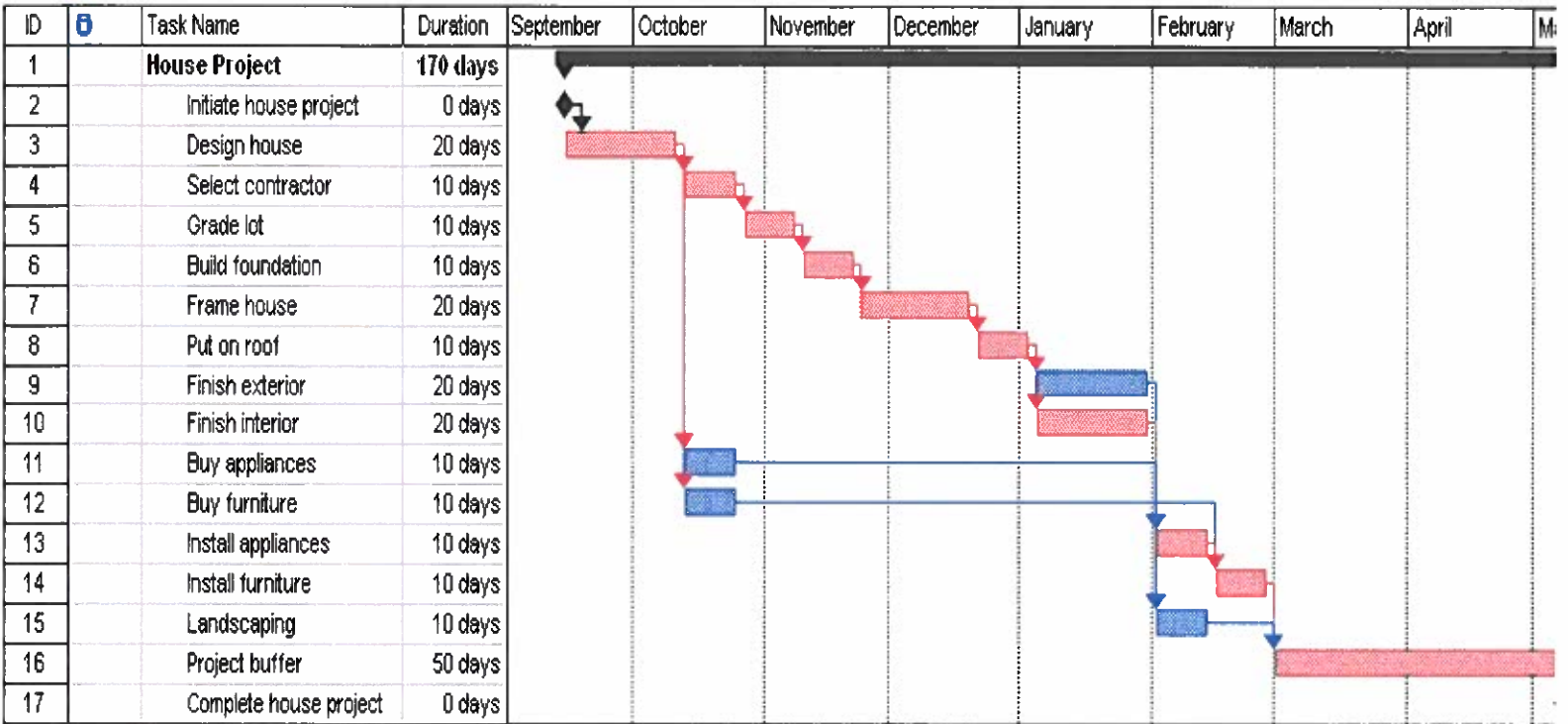
We would like to use the information in our Task Duration Table to determine a contingency to protect the project due date from schedule overruns. Goldratt in *Critical Chain* has proposed a simple method of calculating this contingency, which he terms a project buffer. This buffer is placed at the end of the Critical Path to protect against overruns in the duration of the tasks on the Critical Path. (We assume that the feeding paths have sufficient leeway, or schedule float, to allow for schedule overruns in the feeding tasks.)

Listing only the Critical Path tasks, we see that the pessimistic estimates for the Critical Path tasks total to 220 days, and the most likely estimates total to 120 days. Goldratt's suggestion is that we take half of the difference between the total of the pessimistic and most likely estimates as the project buffer, which in this case would be 50 days.

	<u>Optimistic</u> (days)	<u>Most Likely</u> (days)	<u>Pessimistic</u> (days)
Initiate house project	-	0	-
Design house	10	20	30
Select contractor	5	10	20
Grade lot	5	10	20
Build foundation	5	10	20
Frame house	10	20	30
Put on roof	5	10	30
Finish interior	10	20	30
Install appliances	5	10	20
Install furniture	5	10	20
Complete house project	-	<u>0</u>	<u>-</u>
Total Critical Path length		120	220

Critical Path Tasks for House Project

We can then construct the Gantt (bar chart) schedule for the House project, including the 50 day project buffer. The completed schedule, shown below, indicates that if we start the House project by mid-September, it should be finished before the desired date of 1 June.



Gantt (Bar Chart) Schedule for House Project with Project Buffer

Microsoft Project resource list

Reading Assignment: *Step by Step*, Chapter 5

In this chapter, we will enter resources in our project schedule. Use the project schedule we developed in Module 2, and enter the resources as shown in Chapter 5, starting on p. 95.

Save the Project file and submit it by the date shown in the Syllabus.

Module 3 Summary

We learned in Module 3:

- How to construct a Gantt (bar chart) schedule
- Entering resources using Microsoft® Project

Individual Project Assignment

The purpose of the Individual Project is to give you practice in the project planning and scheduling process. The third assignment for this Individual Project is to create a Gantt (bar chart) schedule with a project buffer for your project, as described in this module. Submit this chart by the date shown in the Syllabus

Step by Step Assignment 2

Submit the *Step by Step*, Chapter 5 Microsoft Project resource list described in this module.

Discussion Postings

There are no discussion postings for this course.