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	Dohn Kissinger, MBA, PhD, PMP, PMI-SP

Module 2

Module Objectives

The objectives of this module are:

- Learn how to construct a Project Network Diagram
- Use Microsoft® Project to enter and link tasks

Reading Assignment

Microsoft® Project Step by Step, Chapters 3 and 4

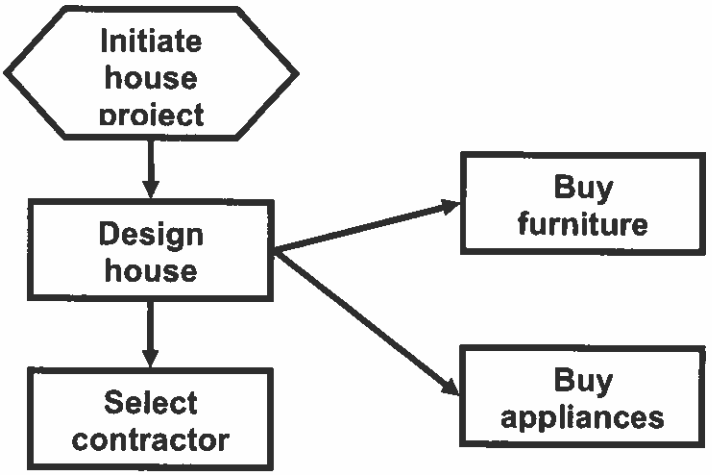
Step 5 – Project Network Diagram

The Project Network Diagram (sometimes incorrectly called a PERT Chart) shows the logical flow of tasks in a project. Section 6.3 of the *PMBOK® Guide* discusses the sequencing of project tasks using the Precedence diagramming method (PDM). This method represents the project tasks as boxes, connected with arrows that represent the dependencies, as shown in Figure 6-11 of the *PMBOK® Guide*. The predecessor tasks are performed first, followed by the successor tasks.

After starting a project, there may be several tasks we can perform. For example, after **Initiate house project**, we can **Design house**. Following the completion of this task, we can perform either of the following tasks:

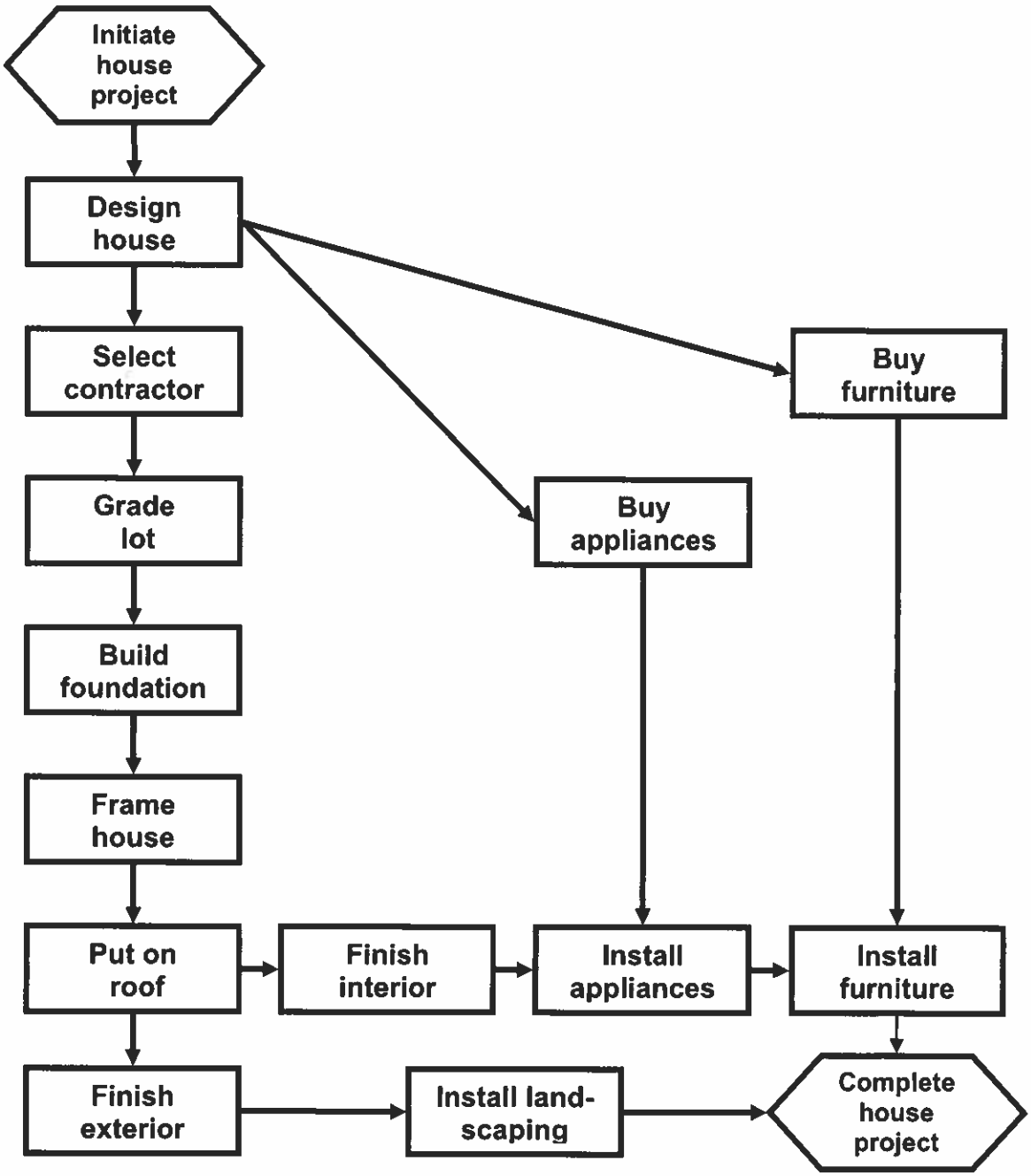
- **Select contractor**,
- **Buy appliances**, or
- **Buy furniture**.

We would show this as:



Start of Project Network Diagram for House Project

After we **Select contractor**, we can **Grade lot**. After we **Buy furniture**, we can **Install furniture**. After we **Buy appliances**, we can **Install appliances**. Following the performance of each task in our project, we can identify subsequent tasks that can now be performed. Eventually, we will construct the following Project Network Diagram:

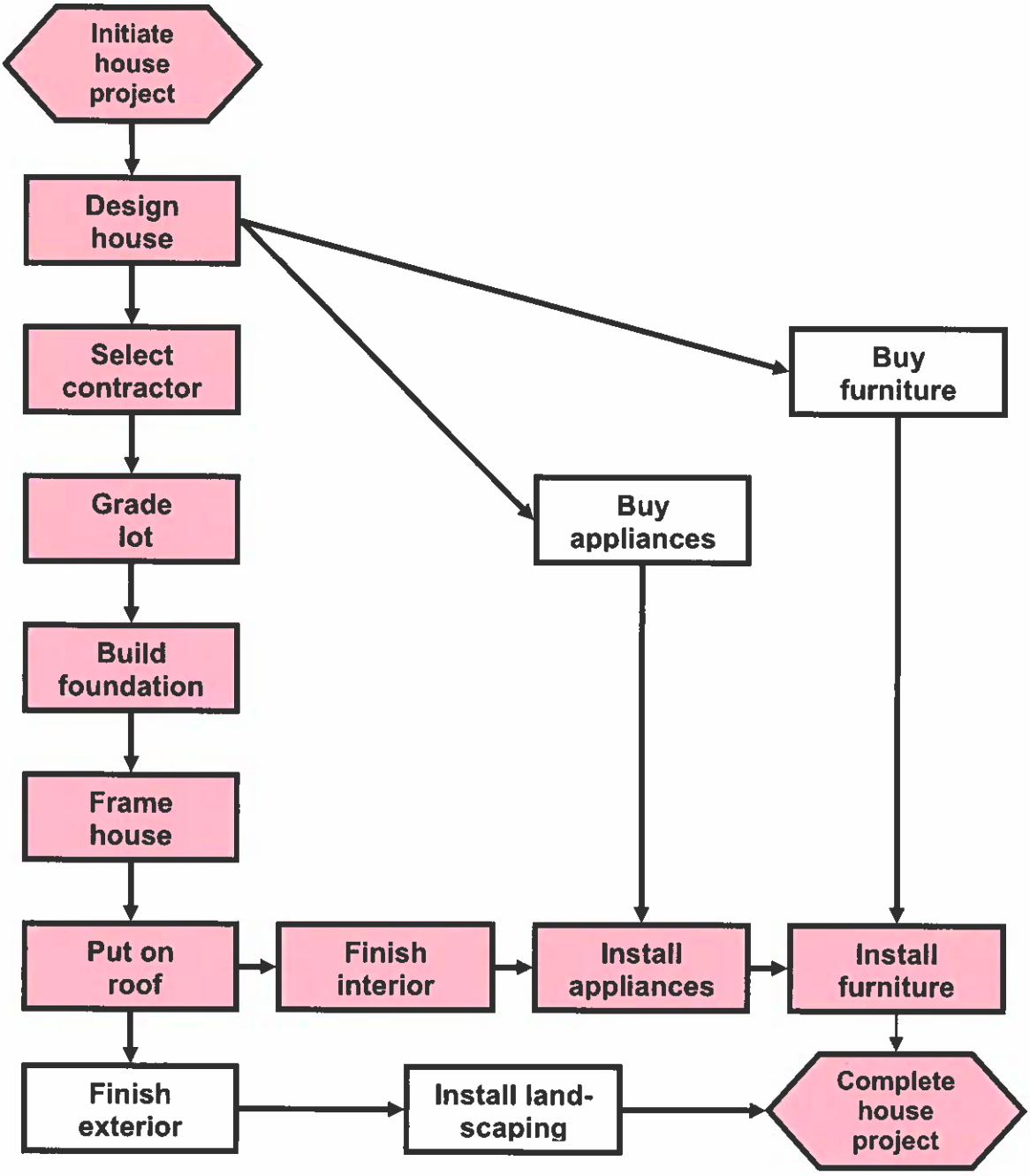


Complete Project Network Diagram for House Project

After we complete all of these tasks in these four paths, the house project will be complete.

The logic of the Project Network Diagram should always be checked by going backwards. For example, in order to **Complete House Project**, we must **Install Landscaping** and **Install Furniture**. In order to **Install Furniture**, we must **Install Appliances** and **Buy Furniture**. In order to **Install Landscaping**, we must **Finish Exterior**. We keep going backwards through the Project Network Diagram until we have validated all of the connections.

How do we determine how long the project will take? We can get a good idea of this by adding all of the most likely times from our Task Duration Table along all of the paths in the project. We find that the longest path is 120 days. As discussed in Section 6.5.2.2 of the *PMBOK® Guide*, this path is called the Critical Path. The tasks on the Critical Path are called Critical Tasks. The parallel paths to the Critical Path are called non-critical or feeding paths, because they feed into the Critical Path. We have three feeding paths in our project. The Critical Path is shown as the shaded tasks in the following diagram:



Critical Path for House Project

Step by Step task schedule

Reading Assignment: *Step by Step*, Chapters 3 and 4

We will enter and link tasks to create a project task schedule. Follow the instructions in Chapter 3 to create a project schedule from a blank project file. Then enter the tasks as listed in Chapter 4, starting on p. 70.

Follow the remaining instructions in Chapter 4 to enter durations, enter milestones, create phases, and link tasks, etc. If you are using a 2007 or earlier version of Microsoft Project, these versions don't have the Manually Scheduled capability, so ignore this part.

Module 2 Summary

We learned in Module 2 how to:

- Construct a Project Network Diagram
- Enter and link tasks 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 second assignment for this Individual Project is to create a Project Network Diagram for your project, as described in this module. Submit this chart by the date shown in the Syllabus.

Step by Step Assignment 1

Submit the *Step by Step* Microsoft Project task schedule described in this module by the date shown in the Syllabus.

Discussion Postings

There are no discussion postings for this course.