Overview

The construction project manager plays a vital role in ensuring a project’s overall success. Beginning with the initial construction request, the project manager shoulders the responsibility for planning, organizing, estimating, and scheduling the activities and resources necessary for completing a building project according to plan. Whether it is a residential, commercial, industrial, or civil project, construction project managers use similar skills and techniques to coordinate and plan all phases of a construction project.

Along with fundamental project management knowledge, the successful construction project manager possesses strong communication skills, a thorough understanding of the building process, and the ability to identify and resolve risks that could prevent the project from being constructed on time and within budget. The construction project manager may also be tasked with understanding financial challenges, interviewing and hiring construction workers; and monitoring many of the day-to-day activities that occur on all construction sites.

Learning Objective 1

Successful completion of this module prepares trainees to:
Identify the requirements of project management.

a. Identify the job functions of a project manager.
b. Explain the importance of ethical conduct in a project manager.

Learning Objective 2

Successful completion of this module prepares trainees to:
Describe the elements of project management.

a. Define what a project is.
b. Identify the phases of a project.
c. Describe construction project flow.
d. Identify the common project delivery systems.
Performance Tasks

This is a knowledge-based module; there are no performance tasks.

Recommended Teaching Time: 2.5 hours

Classroom Equipment and Materials

- Whiteboard and markers
- Pencils and paper
- PowerPoint® Presentations for Module 44101
- A variety of standard marker sizes
- Poster board
- Flip chart
- LCD projector and screen
- Computer with Internet access
- Module Review answer key
- Module Examinations
Overview
As a management tool, a safety and loss prevention program has two purposes:

1. To provide project managers with a basic understanding as to how a company’s safety performance affects the profit and loss and its ability to remain competitive in the future.
2. To serve as a guide and resource for project managers in carrying out their duties with respect to safety and loss prevention.

Learning Objective 1
Successful completion of this module prepares trainees to:
Explain the importance of an effective safety program.

a. Describe the duties and responsibilities of a project manager with respect to safety and loss prevention.

b. Identify the direct and indirect costs of incidents.

c. Identify potential areas for loss.

Learning Objective 2
Successful completion of this module prepares trainees to:
Define job site safety regulations and requirements.

a. Describe OSHA's inspection and penalty requirements.

b. Explain how to plan and implement a safety program.

c. Identify the elements of a safety program.

d. Describe employee involvement in safety programs.

e. Describe emergency reporting and response requirements.
Performance Tasks

I. Develop an outline for a job site safety program.

Recommended Teaching Time: 15.0 hours

Classroom Equipment and Materials

- Whiteboard and markers
- Pencils and paper
- PowerPoint® Presentations for Module 44102
- A variety of standard marker sizes
- Poster board
- Flip chart
- LCD projector and screen
- Computer with Internet access
- Module Review answer key
- Module Examinations
- No special equipment or materials necessary.
Overview
The purpose of this module is to help project managers develop interpersonal skills by identifying the abilities and skills they bring to the job, learning from their experiences, refining their talents for analyzing people and situations, and developing stronger communication skills.

Learning Objective 1
Successful completion of this module prepares trainees to:
Describe the importance of communication and human relations skills in project managers.

a. Identify project stakeholders and the project manager’s responsibilities related to stakeholders.
b. Demonstrate effective communications skills.
c. Explain the importance of understanding human relations requirements.
d. Identify the legal policies that affect an organization.

Learning Objective 2
Successful completion of this module prepares trainees to:
Describe the importance of effective leadership skills in a project manager.

a. Describe how the power of a project manager is used to achieve project goals.
b. Identify the qualities of effective leaders.
c. Demonstrate knowledge of the techniques and regulations regarding interviews of job applicants.
d. Explain how professional development plans are used.

Performance Tasks
1. Correctly apply behavioral interviewing techniques.
2. Create a professional development plan for a subordinate.
Recommended Teaching Time: 12.5 hours

Classroom Equipment and Materials

- Whiteboard and markers
- Pencils and paper
- PowerPoint® Presentations for Module 44103
- A variety of standard marker sizes
- Poster board
- Flip chart
- LCD projector and screen
- Computer with Internet access
- Module Review answer key
- Module Examinations
- None required for this performance task activity
- Blank professional development form
Overview
While planning and managing projects, there will be issues and challenges that need to be resolved. An effective project manager will be able to resolve issues before they become serious problems. In this module, you will learn two essential management skills: problem solving and negotiating.

Learning Objective 1
Successful completion of this module prepares trainees to:
Describe the problem-solving process.

a. Describe how to recognize ineffective problem-solving techniques.
b. Explain the use of the problem-solving ladder.
c. Describe the fact-finding process.

Learning Objective 2
Successful completion of this module prepares trainees to:
Describe effective negotiating methods.

a. Identify the phases of negotiation.
b. Understand the six negotiating strategies.
c. Explain how to use communication signals in negotiations.
d. Describe how dispute resolution is achieved.

Performance Tasks

1. Demonstrate the use of problem-solving techniques.

Recommended Teaching Time
Classroom Equipment and Materials

• Whiteboard and markers
• Pencils and paper
• PowerPoint® Presentations for Module 44104
• A variety of standard marker sizes
• Poster board
• Flip chart
• LCD projector and screen
• Computer with Internet access
• Module Review answer key
• Module Examinations
• No special equipment or materials necessary.
Overview

Documentation is vital for a successful business. Numerous studies indicate that poor documentation causes the most problems for industry, followed by poor administration. Documentation is the who, what, where, when, and how of a construction project. It is a collection of facts that record and document the actual history of the project. The specific documentation you will need to maintain depends on the type of project and the needs of the owner, the architect/engineer, the contractors, and the project team members. Without exception, all projects should have some form of documentation.

Learning Objective 1

Successful completion of this module prepares trainees to:
Explain the need for documentation on a project.

a. State the various methods used to obtain work in the construction industry.
b. Identify the parts of a typical project manual.
c. Describe the role of drawings and specifications.
d. Identify the types of contracts used in the construction industry.

Learning Objective 2

Successful completion of this module prepares trainees to:
Identify the types of documents used on a project.

a. Describe the insurance requirements for a company and a project.
b. Explain the importance of using and maintaining a record of project correspondence.
c. Describe the change order process.
d. Describe how contractor payments are processed.
e. Describe the project closeout process.
Performance Tasks

1. List the documents required to close out a project.

Recommended Teaching Time: 10 hours

Classroom Equipment and Materials

- Whiteboard and markers
- Pencils and paper
- PowerPoint® Presentations for Module 44105
- A variety of standard marker sizes
- Poster board
- Flip chart
- LCD projector and screen
- Computer with Internet access
- Module Review answer key
- Module Examinations
- No special equipment or materials necessary.
Overview

Most construction activities are actually quite simple. Complexity results from having to perform those activities in a specific sequence and within a scheduled time frame. As project manager, it is your job to ensure that the project makes a profit for the company. This means making the most efficient use possible of all the equipment, materials, and workers and coordinating them with the resources on other projects.

Learning Objective 1

Successful completion of this module prepares trainees to:
Explain the project planning process.

   a. Identify the elements of a project plan.
   b. Describe the project planning process.
   c. Explain how a work analysis is performed.

Learning Objective 2

Successful completion of this module prepares trainees to:
State the requirements for resource planning.

   a. Describe how to estimate and acquire materials required for a project.
   b. Explain the use of purchase orders and contracts in acquiring materials.
   c. Identify the planning requirements for materials, equipment, tools, and labor needed for a project.

Performance Tasks

1. Develop a plan for acquiring and managing the materials needed for a project.

Recommended Teaching Time: 10 hours
Classroom Equipment and Materials

- Whiteboard and markers
- Pencils and paper
- PowerPoint® Presentations for Module 44106
- A variety of standard marker sizes
- Poster board
- Flip chart
- LCD projector and screen
- Computer with Internet access
- Module Review answer key
- Module Examinations
- No special equipment or materials necessary.
Overview

The goal of a construction project manager is to build projects to the standards established in the drawings and specifications, and to do it within the estimated time and cost to meet contract requirements. You must understand budgeted, actual, and projected costs and be able to perform cost analysis. Using these skills effectively allows you to be aware of the cost of doing the work, the cost impact of rework, and how to exercise controls to keep costs in line. This module presents information on cost estimating, project cost awareness, and cost control. In addition, it offers the project manager the tools necessary for analyzing job costs. As a project manager, you should always keep in mind that you are responsible for ensuring that your company makes a profit.

Learning Objective 1

Successful completion of this module prepares trainees to:

- Explain the cost estimating process.
  
  a. Identify the steps of the cost estimating process.
  b. Explain the relationships between estimated and actual cost.
  c. Describe the elements of cost control and cost reporting.

Learning Objective 2

Successful completion of this module prepares trainees to:

- Describe how to perform a cost analysis and its related reporting mechanisms.
  
  a. Explain the cost analysis process.

Performance Tasks

1. Under the supervision of the instructor, you should be able to do the following:
2. Perform a cost analysis for a simple project.
Recommended Teaching Time: 15.0 hours

**Classroom Equipment and Materials**

- Whiteboard and markers
- Pencils and paper
- PowerPoint® Presentations for Module 44107
- A variety of standard marker sizes
- Poster board
- Flip chart
- LCD projector and screen
- Computer with Internet access
- Module Review answer key
- Module Examinations
- No special equipment or materials necessary.
Overview
Effective schedules are based on good planning. Once the project is broken down into tasks necessary to complete the work, developing a schedule will then define how the project tasks will be completed. The project manager usually develops the project schedule with input from others, including estimators, foremen, superintendents, and managers. This approach will result in a realistic schedule and a successfully completed project.

Learning Objective 1
Successful completion of this module prepares trainees to:
State the importance of scheduling as a project management function.

a. Explain the importance of effective time management.
b. Identify the benefits of formal scheduling.
c. Define lean construction.

Learning Objective 2
Successful completion of this module prepares trainees to:
Describe how to implement and manage project schedules.

a. Identify types of project scheduling systems.
b. Explain how to manage and enforce a schedule.

Performance Tasks
1. Develop a project schedule using the method specified by the instructor.
Classroom Equipment and Materials

- Whiteboard and markers
- Pencils and paper
- PowerPoint® Presentations for Module 44108
- A variety of standard marker sizes
- Poster board
- Flip chart
- LCD projector and screen
- Computer with Internet access
- Module Review answer key
- Module Examinations
- No special equipment or materials necessary.
Overview
The project manager is responsible for controlling production so that the project is built within the specified time and allocated budget. This means controlling the use of resources, maintaining a safe work environment, being constantly aware of productivity rates, and, when necessary, reviewing and revising work methods. The resources that must be controlled are material, tools and equipment, labor, time, space, and money. This module examines the topic of resource control and the various parameters within it.

Learning Objective 1
Successful completion of this module prepares trainees to:
Identify and explain the elements of production control.

a. Identify and describe the factors that affect production control.
b. Identify and describe common production control standards.

Learning Objective 2
Successful completion of this module prepares trainees to:
Explain how an employee's efficiency is tied to production and its importance to a successful project.

a. Describe methods used to improve productivity.
b. Describe methods used to evaluate productivity.
c. Identify methods used to control materials on a project.
d. Identify methods used to control labor productivity.

Performance Tasks
This is a knowledge based module, there are no performance tasks.

Recommended Teaching Time
Classroom Equipment and Materials

- Whiteboard and markers
- Pencils and paper
- PowerPoint® Presentations for Module 44109
- A variety of standard marker sizes
- Poster board
- Flip chart
- LCD projector and screen
- Computer with Internet access
- Module Review answer key
- Module Examinations
Overview

In any construction company, quality should be as much the responsibility of the president as the project manager and craftworker. As project manager, you must be aware of the fundamental concepts of an effective quality control and assurance process and apply them in day-to-day management activities.

Many companies have established quality standards covering all aspects of quality control and assurance, from pre-planning to final inspection. Project managers in such companies should become familiar with these standards and incorporate them into their daily activities.

The Project Management Institute (PMI) has established standards, the *PMBOK® Guide*, to ensure that a construction project takes into account quality planning, assurance, and control. PMI’s guidelines for project quality management are tailored to be compatible with the International Organization for Standardization’s ISO 9000 and 10000 series. Also influential are guidelines established in total project quality management (TQM) processes. Together, these proprietary and non-proprietary systems provide the foundation for today’s project quality management process.

**Learning Objective 1**

Successful completion of this module prepares trainees to:

Explain the principles of quality control and quality assurance.

a. Describe the differences between quality control and quality assurance.

b. Identify the phases of a quality management plan.

**Learning Objective 2**

Successful completion of this module prepares trainees to:

Explain how to develop a quality program.

a. Describe how to implement a quality process.

b. Describe how to monitor rework and its related cost.

c. Describe the development of a quality checklist.
Performance Tasks

1. Develop a quality control checklist for a project defined by the instructor.

Recommended Teaching Time: 5 hours

Classroom Equipment and Materials

• Whiteboard and markers
• Pencils and paper
• PowerPoint® Presentations for Module 44110
• A variety of standard marker sizes
• Poster board
• Flip chart
• LCD projector and screen
• Computer with Internet access
• Module Review answer key
• Module Examinations
• Blank quality control checklist sheets.
Continuous Improvement

Overview

In today's construction industry, many companies have an improvement process that is integrated into their business model to better achieve their quality standards and client satisfaction. In this module, you will explore the process of continuous improvement. You will develop answers to key questions: What is continuous improvement? How is it performed? What makes it work?

Learning Objective 1

Successful completion of this module prepares trainees to:
Identify the elements of a continuous improvement program.

a. Describe the role of a project manager in a continuous improvement program.
b. Explain the objectives of project quality management.

Learning Objective 2

Successful completion of this module prepares trainees to:
Explain how to implement a continuous improvement program.

a. Describe how to apply project quality management to a continuous improvement program.
b. Explain how to apply continuous improvement principles to the various processes within a project.

Performance Tasks

This is a knowledge-based module; there are no performance tasks.
Recommended Teaching Time: 5 hours

Classroom Equipment and Materials

• Whiteboard and markers
• Pencils and paper
• PowerPoint® Presentations for Module 44111
• A variety of standard marker sizes
• Poster board
• Flip chart
• LCD projector and screen
• Computer with Internet access
• Module Review answer key
• Module Examinations