

## **CONTENT OUTLINE**

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### **CONSTRUCTION PLANNING - SCHEDULING**

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### **OVERVIEW**

This course is designed to assist construction managers in planning a construction project, scheduling the use of labour, equipment and material, subtrades, and organizing the construction process. In addition, participants will learn how to prepare progress reports.

### **PREREQUISITE**

Although there is no formal educational prerequisite for this course, the participants' chances of success will be enhanced if their reading and comprehension skills are at a high school or equivalent level. Participants must be familiar with basic computer operating and word processing programs.

As well, participants should have previously acquired basic computer competencies and must be able to interpret an estimate, drawings, and specifications.

### **LEARNING OBJECTIVES**

Upon successful completion of this course, participants will be able to:

- develop a construction project plan
- develop a schedule
- modify/accelerate a schedule
- prepare a progress report
- prepare a post job review

### **CONTENT**

#### **1. Develop a construction project plan.**

- site visit
- contract documents
- work breakdown structure
- estimates
- alternative courses of action
- resources
- change management plan

## **2. Develop a schedule.**

- methods: logic diagram, CPM, GANTT (Bar), Line of Balance, Pictorial, cash flow, histogram, installation, resource levelling and resource allocation
- scheduling software packages and benefits

## **3. Modify / accelerate a schedule.**

- crash a schedule
- resource levelling
- fast tracking
- updating

## **4. Prepare a progress report.**

- interrelationship of job progress / schedule / costs and budget
- percent complete
- earned value
- cost to complete

## **5. Prepare post-job review.**

- productivity
- historical data
- lessons learned

## **METHODOLOGY**

This course lends itself to lectures, demonstrations and projects. Instructors may involve the participants in the following specific techniques and activities:

- icebreaker type activity to get students engaged as soon as possible;
- group activity where each group is given a set of plans and specifications and each group must develop a methods statement for a work breakdown structure;
- developing cash flows using "S" curve;
- developing a construction plan and a schedule;
- computer scheduling software demonstration;
- exercises with progress reports and modifying / accelerating schedules;
- evaluating a completed project for successes and failures.

## ASSESSMENT

In order to successfully complete this course, participants will be expected to demonstrate that they have achieved the learning objectives. They will be evaluated through various assignments, projects, and/or tests based on each of these objectives. Final assessment for the course will be determined by the following weighting:

Learning Objective	Weighting (%)
1. Develop a construction project plan.....	25
2. Develop a schedule .....	25
3. Modify / accelerate a schedule .....	15
4. Prepare a progress report .....	25
5. Prepare post-job review.....	10
	100

## **RESOURCES**

### **Reports, Manuals, Textbooks, and Documents**

A Guide to the Project Management Body of Knowledge (PMBOK), PMI Standards Committee, Project Management Institute, 1996 [ISBN: 1-880410-12-5 (pbk. : alk. paper) / ISBN: 1-880410-13-3 (hdbk)]

Construction Planning & Scheduling – An Introduction, 1<sup>st</sup> Edition, 1997, published by CIQS (ISBN: 1-896606-16-4)

Means Forms for Contractors, R.S. Means Company, Inc., 1990. (ISBN: 0-87629-214-7)

PMP Exam: Practice Test and Study Guide, ESI International, 1998 (ISBN: 1-890367-11-7)

PMP ©: Project Management Professional Study Guide, SYBEX Inc., 2002 (ISBN: 0-7821-4106-4)

Project Scheduling and Management for Construction by David Pierce, Jr., 1998 (ISBN: 0876295332)

Scheduling Guide for Program Managers  
([http://www.dau.mil/pubs/gdbks/scheduling\\_guide.asp](http://www.dau.mil/pubs/gdbks/scheduling_guide.asp))

Scheduling in a Nutshell (<http://www.valuation-opinions.com/ev/nutshell.lasso>)

BC Manual on Management of Building Projects (<http://www.bcprojectsmanual.com>)

### **Government / Association Websites**

Canadian Institute of Quantity Surveyors (<http://ciqs.org>)

### **Other Resources**

Scheduling software packages