

CM 290: CONSTRUCTION PLANNING, SCHEDULING AND CONTROL

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2024
Credits:	3
Total Contact Hours:	54
Lecture Hours :	54
Lab Hours:	0
Hours Arranged:	0
Outside of Class Hours:	108
Total Student Learning Hours:	162
Prerequisite:	CM 270.
Transferable to CSU:	Yes
Transferable to UC:	No
Grading Method:	Standard Letter

Catalog Course Description

Understand and apply conventional skills, techniques and applications to plan, schedule, and control construction project schedules. 54 lecture hours.

Course Objectives

- Understand the various construction manager-produced documents including basic scope of work, contracts, notices to proceed, change orders, field directives, requests for information, transmittal, payment applications, bid items, schedule of values, time and material accounts.
- Create a basic construction schedule using software applications such as MS Project Software.
- Demonstrate understanding of Precedence Diagramming Method (PDM) and Critical Path Method (CPM).
- Analyze the principle of Time-Impact-Analysis (What-If Analysis)
- Demonstrate understanding and application of Resource Loading & Resources Utilization
- Demonstrate skill in writing basic documents that are produced and managed by a construction manager.
- Demonstrate understanding and application of Resources Leveling – Balancing Workload
- Demonstrate understanding and the application of project planning (Construction Specification Institute (CSI) and Unifomat II)

Major Course Content

1. Basics Principles & Fundamentals (Project Life Cycle – Project Phases)
2. Overview of Planning, Scheduling and Control (Contractual Requirements)
3. Impact on Project Scheduling Requirements (Owners Vs Contractors Prospective)
4. Pre-Construction Planning

5. Schedule Development: Bar Chart Schedules
6. Schedule Development: Network Schedule Development & Calculations (Precedence Diagramming Method)
7. Reviewing and Analyzing the Schedule (Impact of changes)
8. Acceleration and Schedule Compression (Overlapping Scheduling)
9. Scheduling Analysis - Project Imposed Constraints (Accelerations & Compression) Expediting Project Schedule / What-If Scenarios
10. Scheduling Resources
11. Resources Allocation
12. Resources Leveling
13. Computer Applications (Primavera & Microsoft Projects) - Schedule & Cost Control Presentation (Reporting / Communication)

Suggested Reading Other Than Required Textbook

Read assigned article on Earned Value (EV) in construction.

Examples of Required Writing Assignments

Given a specified construction project scope, develop a schedule using Computer Based Applications.

Examples of Outside Assignments

Group Assignments: Develop a basic cost control plan for a given project.

Instruction Type(s)

Lecture, Online Education Lecture