

CM 270: CONSTRUCTION EQUIPMENT AND METHODS

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 110 and CM 210.
Transferable to CSU:	Yes
Transferable to UC:	No
Grading Method:	Standard Letter

Catalog Course Description

This course studies the various equipment and methods employed by contractors in building and general engineering construction projects. Topics include fundamentals of excavation, grading, trenching and earthmoving operations, including volume calculation and mass diagrams, soil remediation and dewatering systems, equipment operations and safety, selected construction materials, basic environmental practices, management and economics. 54 lecture hours.

Course Objectives

- Analyze the alternate means and methods of construction in terms of efficiency and safety of operations.
- Identify the construction sequence of operations in a building and civil construction project.
- Describe basic project phasing and logistics in building and general engineering construction.
- Identify the various types of heavy equipment and their uses.
- Understand the fundamental principle of Economies of Scale.
- Demonstrate understanding of the various materials employed in building and civil construction.
- Determine production rates for the various types and uses of equipment, including production rates.
- Compare and contrast construction means and methods against the contract documents, safety and best industry practices.

Major Course Content

1. Construction Equipment and Methods
2. Excavations and Grading
3. Soils
4. Equipment Operations
5. Cranes and Rigging Operations

6. Construction Sequencing

7. Best Management Practices (BMPs)

Suggested Reading Other Than Required Textbook

Read assigned reading material about California Environmental Requirements for construction projects.

Examples of Required Writing Assignments

Prepare a report that addresses the management of heavy equipment on civil projects.

Examples of Outside Assignments

Given assigned drawing excerpts, estimate the amount of cut and fill materials required for the construction of a roadway section identified in the drawings.

Instruction Type(s)

Lecture, Online Education Lecture