

**STATE UNIVERSITY OF NEW YORK  
COLLEGE OF TECHNOLOGY  
CANTON, NEW YORK**



**MASTER SYLLABUS**

**COURSE NUMBER – COURSE NAME  
CMGT 300 - Construction Management**

**Created by: A. Reiter**

**Updated by:**

**Canino School of Engineering Technology**

**Department: Civil and Construction Technology**

**Semester/Year: Fall 2020**

A. **TITLE:** Construction Management

B. **COURSE NUMBER:** CMGT 300

C. **CREDIT HOURS:** (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity)

# Credit Hours: 3

# Lecture Hours: 3 per week

# Lab Hours:            per week

Other:            per week

Course Length: 15 Weeks

D. **WRITING INTENSIVE COURSE:** Yes  No

E. **GER CATEGORY:** None:  Yes: GER  
*If course satisfies more than one: GER*

F. **SEMESTER(S) OFFERED:** Fall  Spring  Fall & Spring

G. **COURSE DESCRIPTION:**

Construction management fundamentals and their applications to the conduct of a construction business will be studied in this course. Topics include: estimating for the construction manager, CPM (critical path method) scheduling methods and expediting field operations, material management and jobsite laydown. Case studies are employed to assist students with understanding complex problems that arise during the management and administration of complex projects.

H. **PRE-REQUISITES:** None  Yes  If yes, list below:

45 credits or more, or permission of the instructor

**CO-REQUISITES:** None  Yes  If yes, list below:

**I. STUDENT LEARNING OUTCOMES: (see key below)**

By the end of this course, the student will be able to:

<u>Course Student Learning Outcome</u> <u>[SLO]</u>	<u>Program Student Learning Outcome</u> <u>[PSLO]</u>	<u>GER</u> <u>[If Applicable]</u>	<u>ISLO &amp; SUBSETS</u>	
1. Use appropriate new vocabulary in discussing fundamental features of a construction contract.	SO 7		5-Ind, Prof, Disc, Know Skills ISLO ISLO	Subsets Subsets Subsets
2. Demonstrate an understanding of and discuss the different types of contracts along with their advantages and disadvantages.	SO 7		5-Ind, Prof, Disc, Know Skills ISLO ISLO	Subsets Subsets Subsets
3. Demonstrate an understanding of the ethical issues and social implications associated with construction contracts and project delivery.	SO 4		4-Soc Respons ISLO ISLO	Subsets Subsets Subsets
4. Use professional-related literature to report on current practice and techniques associated with civil engineering and construction projects.	SO 1		1-Comm Skills ISLO ISLO	W Subsets Subsets Subsets
5. Create a CPM network diagram manually and determine ES, EF, LS, LF and total float.	SO 6		5-Ind, Prof, Disc, Know Skills ISLO ISLO	Subsets Subsets Subsets Subsets
6. Utilize software application (eg., MS Project, Primavera, Suretrack) to produce and display a construction project schedule.	SO 6		5-Ind, Prof, Disc, Know Skills ISLO ISLO	W Subsets Subsets Subsets
7. Explore public vs. private work and the integral differences between the two sectors: required documentation differences, cost differences, safety protocols, and project funding.	SO 7		5-Ind, Prof, Disc, Know Skills ISLO ISLO	Subsets Subsets Subsets Subsets
8. Choose appropriate equipment based on jobsite conditions, productivity factors, and published equipment performance ratings	SO 5		5-Ind, Prof, Disc, Know Skills ISLO ISLO	Subsets Subsets Subsets Subsets
			ISLO ISLO ISLO	Subsets Subsets Subsets Subsets

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<b>KEY</b>	<b><u>Institutional Student Learning Outcomes [ISLO 1 – 5]</u></b>
<b>ISLO #</b>	<b>ISLO &amp; Subsets</b>
<b>1</b>	<b>Communication Skills</b> Oral [O], Written [W]
<b>2</b>	<b>Critical Thinking</b> <i>Critical Analysis [CA], Inquiry &amp; Analysis [IA], Problem Solving [PS]</i>
<b>3</b>	<b>Foundational Skills</b> <i>Information Management [IM], Quantitative Lit./Reasoning [QTR]</i>
<b>4</b>	<b>Social Responsibility</b> <i>Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T]</i>
<b>5</b>	<b>Industry, Professional, Discipline Specific Knowledge and Skills</b>

\*Include program objectives if applicable. Please consult with Program Coordinator

J. **APPLIED LEARNING COMPONENT:** Yes  No

If YES, select one or more of the following categories:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Classroom/Lab | <input type="checkbox"/> Civic Engagement              |
| <input type="checkbox"/> Internship               | <input type="checkbox"/> Creative Works/Senior Project |
| <input type="checkbox"/> Clinical Placement       | <input type="checkbox"/> Research                      |
| <input type="checkbox"/> Practicum                | <input type="checkbox"/> Entrepreneurship              |
| <input type="checkbox"/> Service Learning         | (program, class, project)                              |
| <input type="checkbox"/> Community Service        |  |

K. **TEXTS:**

Construction Management Fundamentals, 2nd edition, by Knutson, Schexnayder, Fiori, Mayo. McGraw Hill, ISBN-13: 978-0-07-340104-

L. **REFERENCES:**

Engineering News Record (ENR)-available in NS117, on-line and in the library.  
Civil Engineering journal (available in the surveying lab and library)

M. **EQUIPMENT:** None  Needed:

N. **GRADING METHOD:** A-F

O. **SUGGESTED MEASUREMENT CRITERIA/METHODS:**

Exams

Homework

Quizzes

P. **DETAILED COURSE OUTLINE:**

I. Construction Management history

- evolution of management through time
- where we are today (popular methods of management)
- labor and unions

II. Project delivery

- Participants
- contract types
- delivery methods

III. Scheduling techniques

- CPM
- linear
- logic networks
- Gantt charts

**IV. Construction contract administration**

- Essential contract documents
- contractual relationships
- the bid and award
- insurance
- bonding

**V. Accounting, record keeping**

- income statement
- balance sheet
- status reports

**VI. Equipment selection and cost**

- ownership cost vs. renting and leasing
- choosing and sizing equipment for the project
  - cranes
  - loaders
  - trucks and hauling equipment

**VII. Quality, productivity and safety**

- quality assurance
- owner and jobsite effects on productivity

**Q. LABORATORY OUTLINE: None  Yes**