

Course Number and Title: CMT 242 Construction Project Management I

Campus Location:

Georgetown, Dover, Stanton

Effective Date:

2021-51

Prerequisite:

CMT 234 or (NRG 101 and DAT 101)

Co-Requisites:

none

Course Credits and Hours:

3.00 credits

2.00 lecture hours/week

2.00 lab hours/week

Course Description:

In this course, students develop an understanding of project management using productivity software. Primary topics include an introduction to job organization and coordination, project scheduling, critical path method (CPM) scheduling techniques, materials management, cost estimates, and reporting.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:

See supplemental course information.

Schedule Type:

Classroom Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Apply project management skills to construction operations. (CCC 1, 2, 3, 4; PGC 2, 3)
2. Predict key pre-construction planning issues. (CCC 1, 2, 3, 4; PGC 1, 3, 4, 5)
3. Prepare a project schedule using productivity software. (CCC 1, 2, 3, 4; PGC 3, 4, 5)
4. Interpret submittal data. (CCC 1, 2, 3, 4; PGC 2, 3)
5. Classify records and resource profiles for completed and on-going construction projects. (CCC 1, 2, 4; PGC 3)
6. Determine how time affects the associated project costs and final closeout documentation. (CCC 1, 2, 3, 4; PGC 3)
7. Demonstrate professional and ethical conduct as expected in industry. (CCC 1, 2, 4, 5; PGC 3, 5)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Apply project management skills to the construction operations.
 1. Give an example of a work package, and explain how it is used.
 2. Explain the comprehensive process of developing an estimate/schedule.
 3. Determine project control processes.
2. Predict key pre-construction planning issues.
 1. Explain a work breakdown structure.
 2. List activities of construction in sequential order.
3. Prepare a project schedule using productivity software.
 1. Differentiate and demonstrate the four types of activity relationships.
 2. Develop a construction logic diagram.
 3. Explain how and when lead and lag should be used within the logic diagram.
 4. Identify the critical path along a network diagram.
4. Interpret submittal data.
 1. Set up a new project in scheduling or project management software.
 2. Organize all activities into successors and predecessors.
 3. Assign all resources necessary for an activity within the software.
 4. Create a backup and restore a project.
5. Classify records and resource profiles for completed and on-going construction projects.
 1. Classify activity lists and other related reports.
 2. Build milestones into the schedule.
 3. Illustrate a bar chart summary schedule.
 4. Create a spreadsheet and update the cash flow.
 5. Outline and interpret reports using contract and construction documents.
6. Determine how time affects the associated project costs and final closeout documentation.
 1. Categorize resource leveling and loading, and perform these operations using scheduling or project management software.
 2. Define *cost accounts*, and use them to generate a cost estimate.
 3. Develop a project progress curve, and explain how the constructor uses it.
 4. Generate resource and cash flow curves, and explain how the constructor uses them.
 5. Create and compile a schedule of values table.
 6. Measure cost variance, and describe how it relates to job costing.
7. Demonstrate professional and ethical conduct as expected in industry.
 1. Identify the need for self-discipline and time management in technical industries.
 2. Communicate and function effectively as a member of a team.

Evaluation Criteria/Policies:

The grade will be determined using the Delaware Tech grading system:

90	-	100	=	A
80	-	89	=	B
70	-	79	=	C
0	-	69	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Final Course Grade:

Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Assignments (Formative, equally weighted)	10%
Research papers (Summative, equally weighted)	30%
5 Tests (Summative, equally weighted)	60%
TOTAL	100%

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

1. Estimate material quantities for technical projects.
2. Interpret and compile construction drawings and project manual.
3. Employ project management skills as they relate to constructions projects.
4. Use productivity software to develop a project record.
5. Demonstrate a commitment to quality, timeliness, professional development and continuous improvement.

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.