

THREE RIVERS COMMUNITY COLLEGE
FUNDAMENTALS OF CONSTRUCTION MANAGEMENT CTC K120

Monday 6:00 – 8:45 PM, Room D-122

Professor: Rob Lewandowski, PE, Email RLewandowski@Manafort.com

Grade: Exams (4) 50% Mid term 25% Final 25%
(*Subject to Change*)

Course Objectives:

Fundamentals of Construction Management: Introduces the fundamental aspects of construction management to students in a broad format, covering topics that include understanding the design vision, establishing team expectations, project planning, scheduling, estimating, organizational forms, contracts and risk management.

Method: Lectures, Slide Lectures, Simulations, Class Discussion

Text: **Instructor Supplements**
Optional: Construction Management, Halpin & Woodhead

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| <u>Unit 1</u> | Introduction Concepts, Methods and Assessment | <u>Unit 9</u> | Equipment Management Equipment Resources |
| <u>Unit 2</u> | Preconstruction Phases Budgets, Planning & Value Engineering | <u>Unit 10</u> | Equip. Productivity & Material Task & Equipment Matching |
| <u>Unit 3</u> | Construction Phases Critical Path, Trades & Coordination | <u>Unit 11</u> | Labor Relations/Management Inter-personnel Coordination |
| <u>Unit 4</u> | Construction Contracts Service Agreements, Prime & Subs | <u>Unit 12</u> | Planning with Spreadsheets Management Software |
| <u>Unit 5</u> | Construction Law Legal Structure, Contractual Elements | <u>Unit 13</u> | Managing with Spreadsheets Management Software |
| <u>Unit 6</u> | Company & Project Organization Legal Structures | <u>Unit 14</u> | In-class Movie To be announced |
| <u>Unit 7</u> | Project Funding & Cash Flow Funding Sources & Disbursements | <u>Unit 15</u> | In-class Movie Cont'd ... |
| <u>Unit 8</u> | Project Payments and Payout Request for Payment Requisition | <u>Unit 16</u> | Final Exam (Cumulative) |

LEARNING OUTCOMES:

- Understand the methods of project conception, planning & the different delivery models.
- Demonstrate knowledge of critical path elements including lead-times, scheduling, labor, and milestone management.
- Demonstrate the ability to forecast labor personnel, materials and equipment for proper task completion.
- Analyze production data and process mock payment requisitions.

Purpose and Objectives

The objective of the Construction Management Technology Associate degree program is to provide students desiring a career in the construction industry with entry-level skills. This program introduces to students a broad range of courses required for basic performance in offices which support the construction industry, including construction companies, architecture, and engineering firms. Combining basic construction support abilities with exposure to management principles will give students the opportunity to advance into supervisory positions. A need has been identified by individuals in the field for technician entry level work. The primary driver for this program has been the workforce. Advice for this program has come from industry.

The College reports the following learning outcomes for graduates of the Construction Technology program:

- Demonstrate mastery of the basic skill sets, as defined by curricular course outcomes, required for entry level employment in construction management
- Apply the pencil and computer drafting skills required in today's construction industry
- Demonstrate and apply skills necessary for task management and scheduling
- Be productive with industry standard software applications
- Explain and apply construction means, methods, and assemblies.
- Understand that life-long learning and intellectual growth is an integral part of a career in construction technology due to ever-evolving components and systems
- Demonstrate workplace skills related to the occupation, including but not limited to: maintaining a safe and healthy workplace environment, demonstrating workplace ethics and teamwork
- Apply knowledge of theory and safety to accomplish tasks related to the occupation
- Identify and use appropriate tools, testing and measurement equipment to accomplish tasks related to the occupation
- Use current reference and training materials from accepted industry publications and standards to accomplish tasks related to the occupation
- Work on teams
- Identify, analyze, and solve technical problems related to construction management
- Communicate in speech and writing
- Recognize the need for and role of ethical, professional and social responsibility
- Value diversity and understand the global context in which the construction industry operates
- Describe and apply the principles of continuous improvement

ACADEMIC INTEGRITY

Any and all exams, papers or reports submitted by you and that bears your name is presumed to be your own original work that has not previously been submitted for credit in another course unless you obtain prior written approval to do so from your professor.

In all of your assignments, including homework or drafts of papers, you may use words or ideas written by other individuals in publications, web sites, or other sources but only with proper attribution. "Proper attribution" means that you have fully identified the original source and extent of your use of the words or ideas of others that you reproduce in your work for this course, usually in the form of a footnote or parenthesis.

As a general rule, if you are citing from a published source or from a web site and the quotation is short (up to a sentence or two), place it in quotation marks; if you employ a longer passage from a publication or web site, please indent it and use single spacing. In both cases, be sure to cite the original source in a footnote or in parentheses.

(See http://www.plagiarism.org/plag_article_how_do_I_cite_sources.html for more information on citing.)

If you are uncertain about the expectations for completing an assignment or taking a test or examination, be sure to seek clarification from your professor beforehand.

Finally, you should keep in mind that as a member of the Three Rivers Community College community, you are expected to demonstrate integrity in all of your academic endeavors and will be evaluated on your own merits.

Be proud of your academic accomplishments and help to protect and promote academic integrity. The consequences of cheating and academic dishonesty may include a formal discipline file, possible loss of financial scholarship or employment opportunities, and denial of admission to a four year college.