

**Construction Management Department
California State University, Chico**

CMGT 332 – Construction Method Analysis

Course Syllabus

Fall 2020

A. Prerequisites:

GE A1: CMST 131/132, CMGT 210 (Grade \geq C), CMGT 235 (Grade \geq C)

B. Meeting Time & Location:

CMGT 332-03/04	Class #3071/3072	M/W	12:00PM – 1:50PM	O’Connell, Room 127
CMGT 332-01/02	Class #3087/3088	M/W	2:00PM – 3:50PM	O’Connell, Room 127

C. Instructor:

Marie Patterson: mepatterson@csuchico.edu
Office Hours: TBD
Office Location: O’Connell Technology Center, Room 331
Office Phone: 530-898-6309

D. Catalog Description:

This course analyzes methods and techniques of a construction project in a multi-team planning environment. Using Building Information Modeling, students analyze constructability through jobsite logistics, clash detection, log books, and short term resource scheduling. Jobsite labor risk is studied with a focus on productivity tracking, analysis, methods improvement, and safety.

E. Course Learning Outcomes (CLO):

Upon successful completion of this course, the student will:

1. Have created several oral presentations to demonstrate their knowledge of construction methods analysis. **(Direct Assessment: ACCE-SLO #2)**
2. Have participated on a multi-disciplinary team to apply construction method analysis principles and concepts to a construction project. **(Direct Assessment: ACCE-SLO #9)**
3. Have analyzed construction documents and project models to plan and determine the means and methods to manage a construction project. (Reinforce: ACCE-SLO #8)
4. Have applied model-based construction method analysis and Virtual Design and Construction technology to manage a construction project. (Reinforce: ACCE-SLO #10)
5. Have created a preconstruction estimate using model-based quantities and budgetary unit ranges, as well as staffing matrix and general conditions. (Reinforce: ACCE-SLO #4)
6. Have analyzed methods of acceleration for an existing project schedule to decrease overall construction durations. (Reinforce: ACCE-SLO #5)
7. Have analyzed a RFP, plans and specifications and visualized the 3D representation and interpretation of those documents. (Reinforce: ACCE-SLO #7)
8. Have an understanding of preconstruction project control processes. (Reinforce: ACCE-SLO #16)

9. Introduce how job site safety can play an important factor when evaluating method analysis and job site logistic plans. (Introduce: ACCE-SLO #3)
10. Introduce how methods analysis and preconstruction planning can mitigate the risk of material and labor on a construction project. (Introduce: ACCE-SLO #13)
11. Have an understanding of how preconstruction method analysis can support the primary trade partners (MEP) on a project.

Student Learning Outcomes (SLO):

The American Council for Construction Education (ACCE) prescribes 20 Student Learning Outcomes (SLO) as Educational Objectives for an undergraduate degree program in Construction Management. For a list of these 20 SLOs visit the Chico State Department of Construction Managements website www.csuchico.edu/cm and the SLO link under ACCE Accreditation drop down menu.

The following SLOs are supported by this course in the form of I=Introduction, R=Reinforce, or DA-Direct Assessment:

- **SLO 2 – Create oral presentations appropriate to the construction discipline (DA).**
- SLO 3 – Create a construction project safety plan (I).
- SLO 4 – Create construction project cost estimates (R).
- SLO 5 – Create construction project schedules (R).
- SLO 7 – Analyze construction documents for planning and management (R).
- SLO 8 – Analyze methods, materials, and equipment used to construct projects (R).
- **SLO 9 – Apply construction management skills as an effective member of a multi-disciplinary team (DA).**
- SLO 10 – Apply electronic-based technology to manage the construction process (R).
- SLO 13 – Understand construction risk management (I).
- SLO 16 – Understand construction project control processes (R).

ACCE Direct Assessment Mapping:

<u>SLO</u>	<u>CLO</u>	<u>Assessment Type</u>	<u>Week</u>	<u>Target</u>
2	1	Presentation #5	16	85% will earn a 73 or better
9	2	Assignment	15	85% will earn a 73 or better

F. Course Resource Materials Requirements:

Textbook: There is no required textbook for this class. Reading material will be presented for the student, as required, via Blackboard Learn, and additional learning activities on LinkedIn Learning.

Required Course Materials and Software: A course materials and software will be provided to the student at no cost.

Trimble Sketch-up Student Edition
Autodesk Revit 2018 Student Edition
Autodesk Navisworks Manage 2019 Student Edition
Course work binder and tabs (Provided by Department)

Laptop Computer: A computer will be required for assigned activity work. There are no university provided computers in classroom.

Advisory Note!

- ***Revit and Navisworks do not work on Mac based computer operating systems.***
- ***You will be responsible to have a PC based laptop or install a windows operating system on your Mac computer (dual boot environment only!).***

G. Course Requirements:

Conduct

The faculty believe that students are adults and you will be treated and respected as such. Simply put, this means that you will be held accountable for your actions, decisions, and the consequences. I expect each of you to conduct yourself in a professional and mature manner, showing courtesy and respect for fellow students and the instructor. Please review the Universities Disruptive Behavior policy under section M of this document.

Advisory Note!

- ***During class time any disruptive or annoying behavior, outbursts, unbecoming language, or personal visiting during discussion time will result in you being asked to leave and forfeit that day's participation points.***
- ***Your personal agenda must be set aside during class time for the greater good of all your classmates.***

Honesty in the Classroom

You are expected to be familiar with the University's policy on academic integrity. As such, there will be no tolerance for dishonesty, sharing of work, and especially copied work. Ethical standards as established by the university will be strictly upheld (see THE UNIVERSITY CATALOG).

Tobacco Products

The use of any type of tobacco product (smokeless, chewable or otherwise) is not permitted in any building at California State University, Chico. If you chew tobacco products, please refrain during class time.

Electronic Devices

The use of pagers, phones, and other electronic devices (excluding laptops) is not permitted in class. If you must take a call (work or emergency), please EXIT the classroom before answering the call.

Withdrawal from Class

Please refer to the Academic Calendar Deadlines as published in the University Catalog.

Professional Work

As a student looking towards gaining an internship within the construction industry, *it is expected that your completed work will be professional in presentation.* Consider this course as practice in presenting professional quality industry work to your future employer.

H. Instructional Methods:

This course is designed around the following methods of presenting material to the student:

1. Class discussions and assigned readings.
2. Activities and assignments to be started in class (finished outside of class time as necessary), which are designed to reinforce the students learning process.
3. Quizzes to expand the student's construction vocabulary, comprehension of discussion material, and assigned readings.

I. **Assignments:**

This course has eleven project-related assignments and three presentation assignments. Assignments will be due on the due date assigned. Project assignments will accumulate in a lab notebook, which be submitted periodically during the semester for evaluation.

Out of class work may be assigned on a regular basis. Completed assignments will be collected at the beginning of class; please bring your work pre-printed to class for submission, or upload onto Blackboard in the required assignment.

All assignments are expected to be organized and legible. Sloppy work will be rejected and graded as zero. Homework assignment requirements will be clearly defined prior to issuance of the first assignment. Assignments will typically be posted on Blackboard Learn.

Extra Credit may be given for assignments at the discretion of the instructor.

Advisory Note!

- **Assignments will be collected at the beginning of class.**
- **All other submission are late and will not be accepted for credit, unless prior arrangements have been made.**

Readings/Online Course Resources

Readings and Online Course Resources may be available on Blackboard Learn. You are encouraged to familiarize yourself with the appropriate materials prior to class, as this will facilitate your comprehension of course materials and assignments.

Activities

There will be weekly activities assigned to reinforce your understanding of the current classroom course material. These activities are intended to build your skills and continue your development in using common industry software.

Team Work

You will be assigned a team. You are required to study and work in teams. Your project notebooks will be submitted as a team. You will make presentations with your team.

Project Notebook

You will be required to keep all team assignments in a provided, tabbed binder. This team project notebook will be graded and is a requirement for successful completion of the course.

J. **Assessments:**

Assessments are the basis of determining your ability to create, analyze, apply, and understand the Course Learning Outcomes (CLO) and Student Learning Outcomes (SLO) provided by ACCE. Instructional target goals have been established (as noted above) and the results of the assessment in these areas will be used to determine the success of the student and instructor for this course.

Quizzes

Quizzes will be given based upon the class discussion, presentations, workshops, assigned readings, assignments, online course materials, and construction terms presented. A quiz may be given during any discussion or lab session. Quizzes will be given on Bb Learn. Quizzes will be timed. Quizzes are to be completed individually, i.e. they are not a team assignment. Do not solicit or give help to anyone taking a quiz.

Advisory Note!

- **There will be NO make-up quizzes, unless prior arrangements have been made.**
- **If you forget to take the quiz, do not come to me after the fact. It is your responsibility to remember that a quiz is due.**

Participation, Attitude, and Attendance

A portion of your course grade will be based on participation, attitude and attendance. Fellow team members will also be providing an evaluation of your performance at the end of the semester on participation, attendance, communication and contribution.

Attendance is an important part of this class due to the nature of group assignments and the preference of working together during class time to complete work, rather than coordinating time outside of the standard designated class.

Advisory Note!

- **Attendance/Participation is documented at the END of each class, this is a major consideration in determining your participation points.**
- **It's your responsibly to "sign out" at the end of each class period. Please remind me if the roll sheet has not been distributed by the end class.**
- **There will be a peer evaluation at the end of the semester.**

K. Grading/Evaluation:

All point totals shown are approximate and subject to revision during the course of the semester.

Evaluation Criteria	Points	% of Final Grade	Weighting
<u>Attendance and Participation</u>			13%
Attendance	100 points	9%	
Participation	50 points	5%	
<u>Exams & Quizzes</u>			22%
8 Quizzes	30 pts/each	22%	
<u>Assignments and Presentations</u>			64%
11 Assignments	50 pts/each	50%	

3 Presentations 50 pts/each 14%

Grades are generally assigned by the following distribution, although the professor reserves the right to modify the distribution, as appropriate:

A	=	94 – 100% (Exceptional)	C+	=	77 – 79% (Above Average)
A-	=	90 – 93% (Excellent)	C	=	70 – 76% (Average)
B+	=	87 – 89% (Very Good)	D	=	60 – 69% (Inadequate)
B	=	83 – 86% (Good)	F	=	< 60% (Failing)
B-	=	80 – 82% (Adequate)			

L. Topical Outline:

Refer to the course work calendar posted on Blackboard Learn.

M. University Policies and Campus Resources:

Disruptive Behavior

Students are required to adhere to the behavior standards articulated in the Campus Policies and Code of Student Conduct, and to refrain from disrupting classes and other academic settings. "Disruptive behavior" means conduct that materially and substantially interferes with or obstructs the teaching or learning process in the context of a classroom or educational setting. Disruptive behavior includes conduct that distracts or intimidates others in a manner that interferes with instructional activities, fails to adhere to an instructor's appropriate classroom rules or instructions, or interferes with the normal operations of the University.

Disruption in the classroom may include:

- Persistent speaking without permission.
- Side conversations.
- Excessive talking.
- Engaging in activities not related to the class, or other overt inattentiveness including but not limited to sleeping, talking to others, doing work for another class, checking e-mail, and exploring the Internet.
- Ringing cell phones or using a cell phone.
- Using mobile devices or laptop computers in the classroom for non-course related purposes.
- Eating/drinking in class without permission.
- Monopolizing class discussion and refusing to defer to instructor, or listen to others; persisting when the instructor has indicated that the student's remarks are off topic and it is time to move on.
- Chronically entering late/leaving early, moving about the classroom when not appropriate for the classroom activity.
- Filming, photographing, or taping the class without the instructor's prior permission.
- Disputing authority or arguing with faculty and other students.
- Yelling, arguing, swearing, bullying, or other harassing or intimidating behavior.
- Inappropriate, disrespectful, or uncivil responses to the comments, opinions, presentations, etc. of others in the classroom.
- Physically or verbally abusive conduct.
- Failure to adhere to the instructor's rules or instructions.
- Vulgar or obscene language, slurs or other forms of intimidation.
- Threats of any kind.

- Improper use of equipment, materials or resources.
- Destruction of property.
- Coming to class under the influence of alcohol or another controlled substance.
- Bringing individuals to class who are not enrolled, including infants/children.
- Any behavior that puts the health or safety of the instructor or other students in the classroom in jeopardy.

Academic Integrity

Students are expected to be familiar with the University's Academic Integrity Policy and the University's policy on academic honesty. I take this issue very seriously, and will not tolerate any form of dishonesty such as plagiarism or cheating. Your own commitment to learning, as evidenced by your enrollment at California State University, Chico, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of [Student Judicial Affairs](#). The policy on [academic integrity](#) and other resources related to student conduct can be found at the Student Judicial Affairs website.

If a student is thought to be cheating and charges are brought, a process is set in motion which can result in severe consequences, ranging from failure in an individual course to long-term suspension from the University and denial of a degree. The examples below do not include all possible violations of the University's expectations, but they do give a good idea of behavior which will result in grade reduction, disciplinary probation, suspension, or expulsion from the University.

Plagiarism: Copying homework answers from your text to hand in for a grade; failing to give credit for ideas, statement of facts, or conclusions derived from another source; submitting a paper downloaded from the Internet or submitting a friend's paper as your own; claiming credit for artistic work (such as a music composition, photo, painting, drawing, sculpture, or design) done by someone else.

Taking Information: Copying graded homework assignments from another student; working together on a take-home test or homework when not specifically permitted to do so by the instructor; looking at another student's paper during an examination; looking at your text or notes during an examination when not specifically permitted to do so by the instructor.

Providing Information: Giving your work to another to be copied; giving answers to another student during an examination; after taking an exam, informing another student in a later section of questions which appear on that exam; providing a term paper to another student.

Misrepresentation: Having another student take your exam, or do your computer program or lab experiment; lying to an instructor to increase your grade; submitting a paper that is substantially the same for credit in two different courses without prior approval of both instructors involved; altering a graded work after it has been returned and then submitting the work for re-grading.

Accessibility Resource Center (ARC) and Campus Policy in Compliance with the American Disabilities Act

Any student who feels they may need an adaptation or accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Students with disabilities requesting accommodations, or if you need to make special arrangements in case the building must be evacuated, must register with the [ARC Office](#) (Accessibility Resource Center) to establish a record of their disability. The policy for Disability access and Compliance are found [here](#).

Special accommodations for exams require ample notice to the testing office and must be submitted to the instructor well in advance of the exam date.

Student Learning Center

The mission of the [Student Learning Center](#) (SLC) is to provide services that will assist CSU, Chico students to become independent learners. The SLC prepares and supports students in their college course work by offering a variety of programs and resources to meet student needs. The SLC facilitates the academic transition and retention of students from high schools and community colleges by providing study strategy information, content subject tutoring, and supplemental instruction. The University Writing Center has been combined with the Student Learning Center.

N. Other:

[Title IX: Confidentiality and Mandatory Reporting](#)

As an instructor, one of my responsibilities is to help create a safe learning environment on our campus. I also have a mandatory reporting responsibility related to my role as an instructor. It is my goal that you feel able to share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings. I will seek to keep information you share private to the greatest extent possible. However, I am required to share information regarding sexual misconduct with the University. Students may speak to someone confidentially by contacting the [Counseling and Wellness Center](#) (898-6345) or [Safe Place](#) (898-3030).

The instructor reserves the right to modify the contents of this syllabus at any time during the semester at the instructor's discretion.