

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

**CMGT 450 – Construction Estimating
Course Syllabus**

A. Prerequisites

CMGT 332, CMGT 360, and ACCT 202

Advisory Note!

The coursework relies heavily on the skills of plan and specification reading, as well as the ability to successfully use spreadsheet software, this includes spreadsheet creation, writing formulas, formatting, proper printouts, and production of professional looking documents. Students are hereby notified, and advised, to refresh their base knowledge of these skills prior to participating in this course. You will find the coursework extremely frustrating if these simple tasks bog you down.

This course is demanding as each activity and lab assignment builds off the previous assignment. The student must remain diligent to stay current with the workload or risk the potential of falling too far behind the workload to recover. Missing assignments make it very difficult to continue to ascend in the sequential learning of construction estimating.

B. Meeting Time & Location

CMGT 450-1 / 2	Class #3053 / 3054	M / W	9:00AM – 10:50AM	Langdon, Room 200
CMGT 450-3 / 4	Class #3061 / 3062	M / W	11:00AM – 12:50PM	Langdon, Room 200

C. Instructor

Patrick Brittle pbrittle@csuchico.edu
Office Hours: Mon. & Wed 1:00PM – 3:00PM, Tuesday 11:00AM – 12:00PM and By
 Appointment
Office Location: O’Connell Technology Center, Room 328
Cell Phone: 925-323-2359

D. Catalog Description:

Coursework leads the student through the steps of creating a detailed building estimate utilizing construction documents. Direct costs are generated by performing quantity take-offs and pricing with historical data, labor, and productivity rates. Students analyze subcontractor bids, generate indirect costs, and apply project margin to complete a building estimate.

E. Course Learning Outcomes (CLO):

Upon successful completion of this course, the student will:

1. Remember and define the steps of the detailed estimating process, including the differences between self-performed and subcontracted work.
2. Understand and describe the various industry methods used for Construction Estimating during the course of a project’s life-cycle from feasibility through final bid.

3. Understand the components of construction labor payroll and calculate fully burdened labor rates.
4. Apply the ability to perform accurate individual quantity take-offs and quantity recaps using electronic based technology [**Reinforce: ACCE-SLO #10**].
5. Apply the use of historical records and pricing guides to price self-performed and subcontracted work, with the ability to analyze a crew, crew rate, and crew productivities [**Reinforce: ACCE-SLO #10**].
6. Analyze various ethical dilemmas and potential options to reach an ethical decision as it applies to construction estimating [**Direct Assessment: ACCE-SLO #6**].
7. Create a preliminary estimate consisting of direct costs, indirect costs, margin [**Direct Assessment: ACCE-SLO #4**], and estimating risk management [**Reinforce: ACCE-SLO #13**].

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 <http://www.csuchico.edu/cm/index.shtml> 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=Reinforced, or DA-Direct Assessment:

- SLO 4 – Create construction project cost estimates (DA).
- SLO 6 - Analyze professional decisions based on ethical principles (DA).
- SLO 10 - Apply electronic-based technology to manage the construction process (R).
- SLO 13 - Understand construction risk management (R).

ACCE Direct Assessment Mapping:

<u>SLO</u>	<u>CLO</u>	<u>Assessment Type</u>	<u>Week</u>	<u>Target</u>
4	7	Lab #'s 1-8	4 - 15	85% will earn "73%" or better
6	6	Activity #7	16	85% will earn "73%" or better

F. Course Resource Materials Requirements:

Textbook: A physical book is not used in this class, instead students will purchase and use the RSMMeans Online Database.

RSMMeans Online Student Subscription: Instructions to access and subscribe to this database are posted in the class Blackboard.

Course Pack: Includes project plans, coursework binder, dividers, and a temporary license for the OnScreen Takeoff (OST) software will be provided at no cost to the student.

Laptop Computer: Each student is required to have their own laptop for in-class work, lab work and activity session. Students are to bring their laptop to each class session. There are no university provided computers in the classroom.

Color Printer: Due to the nature of reviewing On-Screen Take-Off print outs and various estimate files from Excel, certain Activities and Labs will require documents to be printed in color. Documents submitted in black and white when color is specifically required will have points deducted.

Advisory Note!

- **OST does not work on Mac based computer operating systems.**
- **CSU Chico IT support (ITSS) will be able to assist you in splitting your hard drive if you have a Mac, which will allow you to run OST.**
- **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

I 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 myself. 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, MP3 players 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 reinforced by quizzes, both in-class and online.
2. In-Class activities will have you work in groups to discuss the content, answer questions, and collaborate on completing a task to be turned-in at the end of that same class period.
3. Activities - Started in class (finished outside of class time as necessary), which are designed to prepare the student for the larger lab assignments.
4. Lab Work - Started in class with the remainder of the assigned lab work to be completed outside the classroom.

I. Assignments:

Out of class work will be assigned on a regular basis. [*Completed assignments will be collected at the beginning of class;*](#) please bring your work pre-printed with a transmittal attached to the front of the assignment, to class for submission.

Advisory Note!

- **Assignments will be considered “LATE” if they are not turned in by the exact start time of class. (Turned in even 1-minute after the start of class constitutes a “LATE” submission)**
- **Assignments turned in after the start of class will be considered “LATE” up until the end of the class period on the day they are due.**
- **Assignments will not be accepted for credit after the end of the class period on the day they are due, unless the student notifies the instructor before hand they are electing you use their “Extension.”**

You will be allowed **ONE** “Extension” for a given assignment. This can be used on any **ONE** Activity **OR** Lab assignment (Quizzes are **NOT** included). Use of this Extension allows you to turn in **ONE** assignment late, **UP TO 24 HOURS FROM THE ORIGINAL DUE DATE**. The **ONLY** criteria is that you email me **PRIOR** to the deadline the assignment is due (start of class on the day the assignment is due). In the email, confirm that you will be taking using “Extension” for that particular assignment. *When submitting an Extension assignment, have the hard copy time-stamped at the CM Office (Langdon 100) to document you have completed it within the allotted 24-hour window, and drop off the assignment in my box located outside my office door.* Certain assignments require an electronic submission to Blackboard by the start of the class they are due. If you use your Extension, the folder will no longer be available or visible in Blackboard. In this case; email me the electronic file within the same 24-hour window of the Mulligan due date. **If by the end of the semester you did not use your “Extension” you will receive an additional 5-Points added to your overall Lab 8 score.**

Advisory Note!

- **There will be NO class time available for printing assignments at the beginning of class.**

- **Assignments will be collected at the beginning of class and any submission during class time will be considered Late and will be docked 15% of the available points.**
- **All other submission are considered late and will not be accepted for credit, unless prior arrangements have been made.**

Readings

Readings are noted in the course calendar. Associated with each assigned Reading are questions to answer as part of that reading, which are referred to as Reading Guides (RG). These Readings and associated Reading Guides facilitate your comprehension of discussion materials.

Activities

In order to facilitate success in the assigned lab work, preparatory activities have been designed and will be assigned prior to related lab topics. The purpose of the activity assignments are to prepare you for the upcoming lab assignment.

Labs

Lab assignments are divided into logical sections, that when assembled, complete the coursework binder and form the basis of your preliminary estimate.

Group Work

You are encourage to study and work in groups, however all submitted work must be your own original work.

Final Estimate Binder (Lab 8)

All the labs completed during the semester will result in a complete estimate. Lab 8 serves as your final estimate deliverable, which includes all the applicable documents from previous Activities and Labs, resulting in your Final Estimate Binder.

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 and assigned readings. Quizzes will be given as posted in the course calendar. Quizzes will be issued both in class and out of class via Blackboard. You will be notified in advance the week of the quiz as to which method the upcoming quiz will be administered.

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.**

Exams

There will be a total of three exams, consisting of two throughout the semester and one final exam. The final exam will have overall coursework objectives, with some content being carried over from Exams 1 & 2. Normally there will not be a make-up for anyone missing an exam. *If a student is unable to take an exam due to an emergency or illness, or is entitled to special dispensation **the instructor should be notified in advance.** Non-excused absences will yield a score of zero.* No makeup exams will be given, except for a serious and compelling reason as outlined by the University Catalog.

Participation, Attitude, and Attendance

Learning is an active process and just being in class does not necessarily correlate to the quality of learning taking place. For this reason, a combination of sign-in sheets and participation activities issued during class, to be turned in at the end of class, will serve as your course participation.

Advisory Note!

- **On certain class days there will be some sort of participation activity, which will contribute to your course participation grade.**
- **These participation activities will be graded based on completeness and correctness.**
- **These participation activities are not able to be made up if you miss a particular class period unless you have a legitimate reason for missing class.**
- **If you believe you have a legitimate reason to miss a particular class, please contact me as soon as you are aware of the conflict and we can discuss the best way to move forward given your particular situation.**

K. Grading/Evaluation:

All point totals shown are approximate and subject to revision during the course semester. **The point structure of this course is weighted so not all points considered equal.** The distribution of point weighting is as follows:

Evaluation Criteria	Points	Weighted % of Final Grade	Category Weighting
<u>Reading Guides, Activities, Quizzes & Participation</u>			32%
(8) Activities	20 pts / each	12%	
(6) Quizzes	10 pts / each	8%	
(8) Reading Guides		4%	
Participation	100 points	8%	
<u>Exams</u>			30%
Exam 1	100 points	10%	
Exam 2	100 points	10%	
Final Exam	100 points	10%	
<u>Lab Work, Course Binder, Participation</u>			38%
Lab #'s 1-7	35 pts / each	28%	
Lab #8 (Final Binder)	100 points	10%	

Grades are generally assigned by the following distribution, although the professor reserves the right to modify the distribution.

A	=	94 -100% (Exceptional)	C+	=	77 – 79% (Above Average)
A-	=	90 – 93% (Excellent)	C	=	73 – 76% (Average)
B+	=	87 – 89% (Very Good)	C-	=	70 – 72% (Below Average)
B	=	83 – 86% (Good)	D	=	60 – 69% (Inadequate)
B-	=	80 – 82% (Adequate)	F	=	< 60% (Failing)

L. Topical Outline

Refer to the course work calendar posted on Blackboard.

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.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. 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.

Disability Services

Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Students with disabilities requesting accommodations must register with the [ARC Office](#) (Accessibility Resource Center) to establish a record of their disability.

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](#) or [Safe Place](#).