

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

**CMGT 450 – Construction Estimating
Course Syllabus**

A. Prerequisites

CMGT 2XX – All 200 Level Courses
CMGT 332 – Construction Methods Analysis
CMGT 360 – Construction Project Management

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 extremely 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. Please refer to the document titled "[The Building Blocks to Construction Estimating.pdf](#)". This diagram shows the minimal foundation knowledge you will need to succeed, as well as the intertwined and dependent relationship of the assignments. 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 #3099	M/W	11:00AM – 12:50PM	Langdon, Room 200
CMGT 450-3&4	Class #3108	M/W	2:00PM – 3:50PM	Langdon, Room 200

C. Instructor

Patrick Brittle pbrittle@horizon.csueastbay.edu
Office Hours: Mon. & Wed.: 9:30am – 10:30am
 Tues. & Thurs.: 10:00am – 11:30am
 By Appointment
Office Location: Room TBD
Office Phone: 925-323-2359

D. Catalog Description:

Material takeoff processes and estimating, using a methodical approach with suggested check lists and techniques for arriving at a reliable estimate of the cost of a construction task or project, to include direct, indirect, and contingency costs and profits.

This course is designed to provide the student with an introduction to detailed building construction estimating from the perspective of a general contractor (approximately 80% of the work is performed by subcontractors). The estimating process will be introduced and the student will work through this process during the course of the semester. Series of activities and lab

assignments will reinforce these steps. Discussion sessions and readings will be assessed with quizzes and exams.

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 projects life-cycle from feasibility through final bid, including accounting and cost control measures [**Reinforce: ACCE-SLO #14**].
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 using, 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 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=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).
- SLO 14 - Understand construction accounting and cost control.

ACCE Direct Assessment Mapping:

<u>SLO</u>	<u>CLO</u>	<u>Assessment Type</u>	<u>Week</u>	<u>Target</u>
4	7	Lab 7 (Concrete), Lab 8 (GC's)	12, 13	70% will earn "70%" or better
6	6	Final Exam (Ethics)	16	70% will earn "70%" or better

F. Course Resource Materials Requirements:

RSMeans Cost Data: Means Engineering Staff, April 2012

ISBN: 978-1-118-33590-1

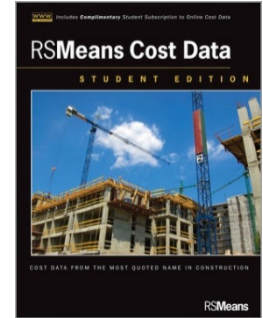
Publishers Website: <http://www.wiley.com/WileyCDA/WileyTitle/productCd-1118335902.html>

Amazon.com, or your other favorite on-line bookstore.

You will need the textbooks code for access to the student on-line subscription of RSMeans Online!

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

Laptop Computer: will be required for lab work and activity session. There are no university provided computers in the classroom.



Advisory Note!

- *OST does 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 or virtual environment).*
- *See the "Use of Laptops" section of Blackboard learn for further information.*

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 & Assigned Readings reinforced by online Bbl quizzes.
2. Activities - Started in class (finished outside of class time as necessary), which are designed to prepare the student for the larger lab assignments.
3. Lab Work - Shall be started in class and shall be worked on during the duration of the session. The balance of assigned lab work will 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 to class for submission.

You will be allowed **ONE** "Mulligan" assignment. This can be used on any **ONE** activity **OR** lab work assignment (Quizzes are **NOT** included). For any reason you may 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 original due date to notify me, **FOR THE RECORD**, that you will be taking your "Mulligan" on a particular assignment.

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 tardy 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

Chapter readings are noted in the course calendar. You are encouraged to have the required reading completed prior to class, as this will 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.

Lab Work

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

Course Work Binder

You will be required to keep all course work (activities and labs) in a tabbed binder (provided). This requirement will be graded during exams 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 and assigned readings. Quizzes will be given as posted in the course calendar. Quizzes will be taken out of class, facilitated by Bbl. Quizzes will be timed, as if you were taking them in the classroom. While they are open book and open note, you will likely NOT have time to research the answers, prior to the quiz expiring.

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.**
- **The quiz questions are randomized and you can NOT go back to change a response.**

Exams

There will be one mid-term exam and one final exam. The final exam will have overall coursework objectives comprehensive questions. 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

A portion of your course grade will be based on participation, attitude and attendance.

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.

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>Activities and Quizzes</u>			25%
7 Activities	25 points each	12.32%	
9 Quizzes	20 points each	12.68%	
<u>Exams</u>			35%
Exam 1	100 points	15.22%	
Exam 2	130 points	19.78%	
<u>Lab Work, Course Binder, Participation</u>			40%
8 Labs	35 points each	30.27%	
Course Binder	20 points	2.16%	
Participation	70 points maximum	7.57%	

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 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: <http://www.csuchico.edu/prs/EMs/2004/04-036.shtml>

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. Students with disabilities requesting accommodations must register with the ARC Office (Accessibility

Resource Center) <http://www.csuchico.edu/prs/EMs/2005/05-019.shtml> to establish a record of their disability.

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 Computing

Computer labs for student use are available <http://www.csuchico.edu/prs/EMs/2007/07-001.shtml> located on the 1st floor of the Merriam Library Rm 116 and 450, Tehama Hall Rm.131 and the BMU Rm 301.

Student Services

Student services are designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. Students can find support for services such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. Student services information can be found at: <http://rce.csuchico.edu/alci/student-services>

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. Please also contact the Accessibility Resource Center office to coordinate reasonable accommodations for students with documented disabilities. Accessibility Resource Center online: <http://www.csuchico.edu/arc/instructors/support-services.shtml>.

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 SLC is online at <http://www.csuchico.edu/slc/>. The University Writing Center has been combined with the Student Learning Center.

N. Other

Title IX: Confidentiality and Mandatory Reporting

As a Chico State instructor, one of my responsibilities is to help create a safe learning environment for Chico State students. 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). Information about campus reporting obligations and other Title IX related resources are available here: <http://www.csuchico.edu/title-ix>.