



SACRAMENTO STATE

Construction Management

CALIFORNIA STATE UNIVERSITY, SACRAMENTO

College of Engineering and Computer Science

Construction Management Program

CM 120 **Operations & Methods Analysis** Course Syllabus Fall 2008

Instructor: Professor Mikael Anderson, PE

Lecture T, Th 9:00 a.m. – 9:50 a.m.
CLV 141

Lab (Section I): T 10:00 a.m. – 12:50 p.m., EUR 101
Lab (Section II): Th 10:00 a.m. – 12:50 p.m., TBD

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T, Th 1:00 p.m. – 2:00 p.m.
W 10:00 a.m. – 12:00 p.m.
or by appointment

CM 120: Operations & Methods Analysis

COURSE DESCRIPTION:

This course focuses on operations, methods analysis, and productivity enhancement in the construction industry. Planning and safety are key themes of this class, with the majority of labs devoted to jobsite visits. **3 units.**

PREREQUISITES:

The prerequisite course(s) for this class, which must have been completed with a C- or better grade, include CM 21. One hundred series CM courses are limited to students whose changes of major to the upper division have been approved by the Program Coordinator. Qualified students who have enrolled through Casper will be given the highest priority for admittance to over-enrolled classes. Other qualified students will be admitted if room exists for them, with the permission of the instructor.

ACADEMIC HONESTY & GRADING SYSTEM:

All students are subject to the policies described in the University Catalogue. In particular, students should be familiar with policies described on pages 104 – 112 and page 339 of the 2004-2006 CSUS Catalogue.

Giving aid to a student during an exam or taking information from another student or student's exam constitutes academic dishonesty. Students caught cheating during an exam will receive a failing grade in the course and can be dismissed from the university. Students are encouraged to work together to solve homework problems, but **copying is obviously prohibited.**

Grades will be assigned based on the student's performance as measured by the assigned homework, midterm exams, and final exam. Grading shall be in accordance with the University's grading policy as outlined in the section entitled "Grading System" in the current copy of the University catalog.

Grade Scale:

A: 90-100 B: 80-89
C: 70-79 D: 60-69
F: <60

Homework	10%
Lab Reports	20%
Midterm Exam #1	25%
Midterm Exam #2	25%
Group Term Paper	20%

*Students achieving overall percentages as shown above are guaranteed grades as indicated. Actual cutoffs may be lower.

COURSE OBJECTIVES:

The purposes of this course are to:

- Identify and categorize construction operations
- Clarify the role of management in construction
- Develop effective observation skills
- Enhance students' writing ability

SPECIFIC EDUCATIONAL OUTCOMES:

At the conclusion of the class, students should be able to:

- Recognize and properly list a variety of construction operations
- Make recommendations as to how to improve productivity on construction sites
- Explain the role management plays in improving efficiency on construction sites
- Explain the difference between labor-paced and equipment operations
- Prepare a safety plan that will satisfy the requirements set forth by Cal OSHA
- Identify the principal sources of injury and deaths on construction sites
- Prepare a flow process chart, site layout diagram, and a crew balance chart and explain their value to management
- Identify up to ten causes for lack of productivity on a construction site

TEXTBOOKS:

Parker, Henry W. and Oglesby, Clarkson H., *Methods Improvement for Construction Managers*, McGraw Hill, 1972. **OUT OF PRINT**, ".pdf" files of textbook available online for \$15 (PayPal). **(Required)**

REFERENCES:

Nickles, R.A. (Emeritus Professor), *Construction Costs Estimating and Bidding: A Managerial Approach*, Unpublished manuscripts, can be ordered at the CSUS bookstore.

Clough, Richard and Sears, Glen, *Construction Contracting*, 6th Ed., John Wiley & Sons, 1994.

Goetsch, David L, *Construction Safety and Health*, Pearson Education/Prentice Hall, New Jersey, 2003.

Bisharat, Keith A, *Construction Graphics – A Practical Guide to Interpreting Working Drawings*, John Wiley & Sons, 2004.

COURSE ORGANIZATION & EVALUATION:**Lecture Sessions**

Attendance is strongly recommended. Lecture sessions will be 50-minutes length, and held two times per week. A tentative instruction schedule, listing lecture topics and reading assignments to be completed by the student prior to attending the lecture, is attached to this syllabus. Classes will be devoted to the presentation of lecture topics, a brief review of the assignments, administering exams, and addressing individual questions as time allows. To maximize learning, you are encouraged to participate

actively in lecture. You will also have the opportunity to work in small groups to solve problems in/out of the classroom.

Lab Sessions

Attendance is required for lab report credit. Lab sessions will be two hours and fifty minutes held one time per week. Students are required to provide their own transportation to each lab session, will mostly be held at off-campus jobsites. The specific project location for the lab sessions will be posted on the course website each week. Lab reports will be due one week following the jobsite visit, and no late lab reports will be accepted. Students are required to provide their own hard hats, safety glasses, long pants, boots, and safety vests to all jobsite visits. One single make-up lab sessions will be given only if *prior permission* is granted for extreme situations such as valid medical reasons.

Course Web Page

A CM 120 course web page will be developed through the CSUS Web CT. It is **important** for you to have a SacLink account to utilize the tools of this course web page. You will be expected to check your Saclink email and the course web page regularly (i.e., daily) for important class announcements, homework assignments & solutions, and other information. You must send all email to me during the semester with **“CM120” somewhere in the “subject line”**. Email without this designation will not be recognized or responded to (i.e., I will assume that it has not been submitted).

Classroom Interruptions

The lecture sessions should be treated in a professional manner, as you would behave during a meeting with a client/contractor. All cellular phones and pagers to be turned off prior to entering lecture sessions and exams. Use of classroom computers during the lecture will also not be allowed. Any violation of these warnings will result in dismissal of the student from that day's lecture.

Homework Policy

Homework problems will be assigned regularly. Assignments must be turned in at the **beginning** of class on the due date, typically two periods after they have been assigned. A maximum of 2 late homeworks will be accepted at the beginning of the next class period, with a **20% penalty**. No homework may be submitted after an assignment is returned or after solutions are provided. This policy does not apply to lab reports.

Homework must be neat and organized, and completed using a straight edge and engineering paper (front side only). Final answers must be boxed or underlined for clarity and **engineering units must be used in solving problems and shown on final answer to receive credit**. Homework sheets must be stapled, with name at the top of each page.

Homework will be reviewed for completion of all assigned problems, but not all of the assigned problems will necessarily be graded. However, solutions of all problems will be posted on Web CT and should be reviewed.

Exams Policy

Two fifty-minute midterm exams will be given as noted on the exam schedule below. These midterm exams will be returned for review in class, but will be collected and remained on file in the instructor's office for a minimum period of one year. Any appeal on the scoring of an exam must be made at the first lecture period following return of the midterm exam.

In lieu of a Final Exam, student groups will present a term paper project report the last week of the semester. Refer to the attached term paper parameters for more details.

Exam Dates (tentative)

Midterm Exam #1	Thursday, October 23	(Week 8)
Midterm Exam #2	Thursday, December 8	(Week 14)

Students may bring the one 8.5 x 11 sheet (both sides) to the first exam, and an additional sheet for each subsequent exam. These sheets must be your own hand written notes. The instructor will collect and review these sheets. Makeup exams will be given only if *prior permission* is granted for extreme situations such as valid medical reasons.

Evaluations

Students are encouraged to provide constructive feedback to the instructor during the semester through "student representatives" and will also formally evaluate the instructor during the last week of class using the standard evaluation form.

Course Binders

All students are required to submit a neatly compiled three-ring binder, with divider tabs, all course notes, assignments, handouts, quizzes, exams, and other course work. Binders will be returned to the students following the ACCE accreditation visit in Spring 2009. Failure to produce and submit this binder will result in a failing grade in the class.