SACRAMENTO STATE
Construction Management

CM 121
Fundamentals of Estimating

Course Syllabus
Fall 2008

Instructor: Phil Clevenger & Russ Mindt

Lecture Schedule:
Lab 1: T/ 5:00pm-8:50pm
Lab 2: Th/ 5:00pm-8:50pm
Location: Riverside Hall 4003

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- Develop crew composition and calculate production rates and associated cost for a variety of trades
- Develop material and labor quantity take-offs for key construction systems that exhibit effective take-off skills: thoughtful analysis, efficiency, a useful format, legibility, and a good audit trail
- How to assemble an estimate for a building construction project including direct, indirect, and subcontract costs; insurance and bond premiums; and margin

- an understanding of the correlation between the project components of planning, design, estimating and scheduling;

COURSE ORGANIZATION

This course includes both a discussion section and a laboratory section. Students must be enrolled in both sections. It is expected that students read the assigned material prior to each class and participate in the class discussions.

There will be weekly assignments for the students to complete outside of the classroom time.

COURSE ASSIGNMENTS

For all assignments - grammar, punctuation, spelling and neatness are important.

- Generally, assignments are due at the beginning of class. **Late assignment submittals will not be accepted.**
- Students who fall ill and are consequently unable to attend class may be requested to provide a signed statement from their doctor attesting to the reason for their absence, if they wish to avoid a reduction in their semester grade.

GRADE SYSTEM

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. See link http://aaweb.csus.edu/catalog/.

BINDERS

You will be required to keep a class binder to organize your class documents and to submit for grading. A select number of binders will be used for program accreditation.

COURSE DESCRIPTION

A study of the basic approaches to estimating the cost of all types of construction projects from a managerial viewpoint. Areas that will be discussed are types of estimates and methods; elements of cost, variables and costing concepts; and analysis procedures for detailed estimates.

PREREQUISITES

This is an upper-division course in the Construction Management curriculum. The specific prerequisite is CM022. Students should also be concurrently enrolled in CM120.

TEXTBOOKS and OTHER MATERIALS

Required:

- Construction Cost Estimating, Process and Practices; by Len Holm, John E. Schaufelberger, Dennis Griffin, Thomas Cole
- *RS Means Building Construction Cost Data – Western Edition 2004, 17th edition*
- *Construction Cost Estimating and Bidding; by Richard A. Nickles.*
- Half-sized set of Project Drawings for Goodyear Auto Center drawn by PWC Architects.
- Project Manual
    - Both the Project Drawings and Project Books are needed by Tuesday, Sept 9th.
    - Both the Project Drawings and Project Books are available at Signature Blueprints, 620 Sunbeam Avenue Street in downtown Sacramento. Ask for them by project name at the customer counter. Students are given a discount, so have your ID with you. Allow several hours for the plans to be copied.
- A set of colored pencils or highlighters (at least five colors)
- A media for storing course information (i.e., CD-RW, JumpDrive, floppy disk, etc.)

Reference:

- *Construction Graphics: A Practical Guide to Interpreting Working Drawings, By Keith A. Bisharat.*

COURSE OBJECTIVES AND SPECIFIC EDUCATIONAL OUTCOMES

Upon completion of this course the student will have gained the following knowledge:

- an advancement in their understanding of the concepts of construction management that were introduced in previous CM courses;
- an operational understanding of the Contract Documents and their role in construction estimating;
- an operational understanding of the concepts and techniques of construction estimating;
    - List the elements of a construction project estimate and how they interrelate
    - Develop the skill of how to organize an estimate.
    - Explain how base labor rates, payroll taxes, fringe benefits, and workers' compensation are used in labor cost calculations
    - Identify effective methods for accumulating quantity take off using a set of drawings and the specifications for a building construction project, with management of the project in mind
- the estimating skills required to determine (1) material and labor quantities, (2) methods to quantify material and labor quantities;

EVALUATION
Course grades will be based on **assignments and exams.**

- **Attendance** is critical. Students who do not arrive for class on time may not be permitted to attend class that day.
- **Course Points**

Course Points	Grade
90 – 100	A range
80 – 89	B range
70 – 79	C range
60 – 69	D range
0 – 59	F range

ACADEMIC DISHONESTY
The principles of truth and honesty are recognized as fundamental to a community of scholars and teachers. California State University, Sacramento (CSUS) expects that both faculty and students will honor these principles, and in so doing, will protect the integrity of academic work and student grades. See link http://www.csus.edu/admbus/umanual/

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.**