

THREE RIVERS COMMUNITY COLLEGE
CONSTRUCTION ESTIMATING
 Fall 2010, Wednesday 6pm - 8:45pm

Instructor: Chuck Canavan, email CCanavan@trcc.commnet.edu

Grade: Quizzes (4) 50% Mid term 25% Final 25%

Course Objectives:

- Be able to interpret, read and understand construction documents and specifications.
- Be able to prepare a conceptual estimate.
- Be able to estimate building costs by systems.
- Be able to understand selected aspects of the bidding process.
- Be able to analyze construction productivity.
- Be able to apply estimating skills and understand their integration into computer spreadsheet applications.

Method: Lectures, Slide Lectures, Simulations, Class Discussion

Text: **Excel Estimating Template, Instructor Supplements**

<u>Week 1</u> (9/01)	Over-view (Review Sample) Why and how we Estimate	<u>Week 9</u> (10/27)	Estimating Equipment Types and Prices
<u>Week 2</u> (9/08)	Estimating Concepts Calculating Methods for Quantities	<u>Week 10</u> (11/03)	Overhead & Profit Overhead vs. Expense, Profits
<u>Week 3</u> (9/15)	Estimating Concepts (Cont'd) Identifying Labor Costs	<u>Week 11</u> (11/10)	Project Contingencies Risk, Unforeseens, Geography
<u>Week 4</u> (9/22)	Estimate Types Budget, Control, and Detailed Estimates	<u>Week 12</u> (11/17)	Estimating Errors Accuracy, Trouble Shooting
<u>Week 5</u> (9/29)	Organizing the Estimate The CSI and Master-Format	<u>Week 13</u> (11/24)	Thanksgiving Break <i>No Classes in Session</i>
<u>Week 6</u> (10/06)	Estimating Procedures Quantity, Waste, Pricing	<u>Week 14</u> (12/01)	Unit Prices Material, Labor, Crew Methods
<u>Week 7</u> (10/13)	Estimating Procedures (Cont'd) Labor (Productive Production)	<u>Week 15</u> (12/08)	SAMPLE ESTIMATE Final Project
<u>Week 8</u> (10/20)	Estimating Procedures (Cont'd) Labor (Modifications & Corrections)	<u>Week 16</u> (12/15)	Class Complete (Last date to submit Project)

COURSE REQUIREMENTS:

Notebook

Students will assemble a notebook, to be made up of handouts distributed at the beginning of each class. A 3” “*Slant-ring*” notebook with plastic sheet protectors is recommended – this will be a good resource for future reference.

EXPANDED COURSE OVERVIEW

1. **Overview.** This orientation lecture helps you understand why and how we estimate and the historical costs of construction. This course teaches the many different uses for construction estimates. You will learn that how an estimate is to be used affects estimating methods.
2. **Estimating Concepts.** There are certain concepts that all estimators need to understand. This lecture will discuss each of these and provide some guidance on how to implement them. They include calculating lineal feet, cubic feet, cubic yards, square feet, conversions, etc.
3. **Estimating Concepts Cont'd.** This lecture covers labor costs: accounting for time, direct and indirect labor costs (i.e. salary, statutory taxes, benefits, etc.).
4. **Different Types and Levels of the Estimate.** You will learn how the amount of information available to you and the time you are allowed to prepare the estimate affects the quality and accuracy of your work, covering budget, control, and detailed estimates.
5. **Organizing the Estimate (CSI Format).** How you organize your estimate is almost as important as how carefully you prepare your quantity take off. We will learn about the CSI (16 Division Construction Standards Institute) and Masterformat and common organizing methods.
6. **Estimating Procedures: Cost, Quantity & Pricing.** Quantity take-off procedures, waste factors, and pricing methods are dealt with in this lecture.
7. **Estimating Procedures: Labor.** This is the longest module. Have your calculator ready! We will learn about using and developing production rates and how to adjust your estimate for a wide variety of factors that affect production rates.
8. **Estimating Procedures: Labor.** (Continued)
9. **Estimating Equipment.** Quantity take off procedures, pricing, and estimating techniques will be covered along with equipment production rates along with choosing correct equipment for the job.
10. **Estimating Overhead and Profit Markups.** Overhead expenses vs. costs of doing business, along with figuring profit as an expense are discussed in this lecture.
11. **Project Contingencies.** How, when and why to add contingencies. Adjusting the estimate for risk, unforeseens, inflation, and geographic location will be covered.
12. **Estimating Errors.** Learn about common errors estimators make and how to avoid making them.
13. **Thanksgiving Break.** No Class in Session
14. **Determining and Using Unit Prices.** How to use unit prices effectively. The crew method, what it is and how to use it. Using unit prices for conceptual estimating and for detailed estimating will be covered.
15. **Sample Estimate.** This class period, students are organized into teams and are given an estimating exercise to work on, implementing the concepts learned in previous classes.
16. **Class Complete.** Last date to submit Project.