

THREE RIVERS COMMUNITY COLLEGE  
**ESTIMATING**  
 Spring Semester 2007, Monday 6pm - 8:45pm

Instructor: Mike Trzesniowski, email mtrzesniowski@standardbuilders.com

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> (1/24)	<b>Over-view</b> (Review Sample) Why and how we Estimate	<u>Week 9</u> (3/21)	<b>Spring Break</b> No Classes in Session
<u>Week 2</u> (1/31)	<b>Estimating Concepts</b> Calculating Methods for Quantities	<u>Week 10</u> (3/28)	<b>Estimating Equipment</b> Types and Prices
<u>Week 3</u> (2/07)	<b>Estimating Concepts</b> (Cont'd) Identifying Labor Costs	<u>Week 11</u> (4/04)	<b>Overhead &amp; Profit</b> Overhead vs. Expense, Profits
<u>Week 4</u> (2/14)	<b>Estimate Types</b> Budget, Control, and Detailed Estimates	<u>Week 12</u> (4/11)	<b>Project Contingencies</b> Risk, Unforeseens, Geography
<u>Week 5</u> (2/21)	<b>Presidents Day</b> No Classes in Session	<u>Week 13</u> (4/18)	<b>Estimating Errors</b> Accuracy, Trouble Shooting
<u>Week 6</u> (2/28)	<b>Organizing the Estimate</b> The CSI and MasterFormat	<u>Week 14</u> (4/25)	<b>Unit Prices</b> Material, Labor, Crew Methods
<u>Week 7</u> (3/07)	<b>Estimating Procedures</b> Quantity, Waste, Pricing	<u>Week 15</u> (5/02)	<b>SAMPLE ESTIMATE</b> Final Project
<u>Week 8</u> (3/14)	<b>Estimating Procedures</b> (Cont'd) Labor	<u>Week 16</u> (5/09)	<b>Final Exam</b> Course Complete

**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. **Presidents Day.** No Classes in Session.
6. **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.
7. **Estimating Procedures.** Quantity take-off procedures, waste factors, and pricing methods are dealt with in this lecture.
8. **Estimating the Cost and Quantity of 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.
9. **Spring Break.** No Classes in Session.
10. **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.
11. **Estimating Overhead and Profit Markups.** Overhead expenses vs. costs of doing business, along with figuring profit as an expense are discussed in this lecture.
12. **Project Contingencies.** How, when and why to add contingencies. Adjusting the estimate for risk, unforeseens, inflation, and geographic location will be covered.
13. **Estimating Errors.** Learn about common errors estimators make and how to avoid making them.
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. **Final Exam.** This is a cumulative test which assesses the students mastering of the course material covered throughout the semester.