

## Introduction to Computerized Electrical Estimating - Virtual

### Course Description

The **Introduction to Computerized Electrical Estimating –Virtual** course is an introductory course in computerized estimating that provides participants the opportunity to acquire the skills and knowledge to accurately estimate costs to construct electrical projects using Trimble Accubid estimating and graphical takeoff solutions.

Participants will learn proven principles and methodologies of electrical estimating through a range of topics such as; creating and applying estimate breakdowns, takeoffs of common systems and items, such as fixtures, distribution, feeder and branch wiring and devices and closing a bid.

Participants are required to submit a completed bid at the end of the course. This bid will be the primary means of measuring performance and determining success.

The entire course is delivered via the internet with ten daily sessions that span two consecutive weeks. This internet-based instructional approach delivers a superior learning experience with higher subject retention. Participants are introduced to concepts through demonstrations, which are then followed by practical hands-on exercises. Participants have 24 hour access to virtual workstations equipped with Trimble Accubid Estimating and LiveCount software tools for the duration of the course.

### Learning Objectives

Upon successful completion of training, participants will be able to:

- Describe the tasks that comprise the estimating process.
- Accurately describe and review bid documents (i.e. drawings, specifications, bid form and addenda)
- Demonstrate procedures to setting up an estimate.
- Describe the importance of breaking down an estimate into logical and functional breakdowns.
- Correctly perform takeoff of materials in common systems using a systematic approach that emphasizes attention to accuracy and detail.
- Demonstrate the ability to modify takeoff quantities and items.
- Demonstrate an understanding of the process of extending material pricing and labor unit values to an accumulated bill of materials.
- Accurately account for costs of all applicable labor (direct, indirect and incidental), general expenses, subcontractors and quoted material items.
- Demonstrate the ability to submit a final bid that accurately accounts for all costs, overhead and profit.
- Demonstrate a basic proficiency in the use of Trimble Accubid estimating and Trimble Accubid LiveCount software.
- Complete a bid using the Final Pricing screen.

## Course Policies and Requirements

1. In order to ensure an optimal learning experience, students must have experience working in a Microsoft Windows environment and must effectively navigate in that environment.
2. Students should be acquainted with electrical construction methods and have knowledge of materials and wiring methods. Blueprint reading skills are a necessity as well.
3. Students will achieve maximum benefit through active class participation. Given the fast-paced nature of the course, students are encouraged to avoid distractions and to avoid disruption to their classmates.
4. Students must have high-speed internet connection with the latest web browsers. Acceptable web browsers are Google Chrome, Mozilla Firefox, and Apple Safari.

## Course Modules

### Module 1 – The Role of the Estimator

- Importance of estimating in contracting business
- Principle activities of an estimator

### Module 2 – The Estimating Process

- Estimating defined
- Estimator's responsibility
- The estimating process
- Estimate setup
- Takeoff
- Material and labor extension
- Closing the estimate
- Final pricing

### Module 3 – Initiating Projects

- Assessing risks in bidding
- Reviewing all documents

### Module 4 – Reviewing Bid Documents

- Drawing review
- Surety bonding in the construction industry
- Contract terms and conditions

### Module 5 – Project Specifications

- Specification review
- Specifications format
- Components of specification format
- Request for information process

- The addenda process

#### Module 6 - Preparing to Estimate

- Defining estimate breakdowns
- Addressing bid requirements

#### Module 7 – Fixture Takeoff

- Defining the takeoff process
- Validating takeoff
- Takeoff sequence
- Time management during takeoff
- Lighting fixtures and accessories takeoff

#### Module 8 – Device Takeoff

- Devices defined
- Steps to device takeoff
- Device takeoff using assemblies

#### Module 9 – Distribution Takeoff

- Steps to distribution takeoff

#### Module 10 – Ducts and Trays Takeoff

- Ducts and trays defined
- Cable tray takeoff
- Bus duct takeoff

#### Module 11 – Feeder Takeoff

- Feeder takeoff defined
- Steps to feeder takeoff

#### Module 12 – Systems and Power Branch Takeoff

- Branch wiring defined
- Branch wiring takeoff process

#### Module 13 –Mechanical Equipment Takeoff

- Mechanical equipment defined
- Mechanical equipment takeoff process

## Course Session Schedule

Self-Paced Learning	Topics
Self-paced modules	Module 1 – The Role of the Estimator Module 2 – The Estimating Process Module 3 – Initiating Projects Module 4 – Reviewing Bid Documents Module 5 – Project Specifications
Virtual Sessions	Topics
Session 1	Module 6 - Preparing to Estimate
Session 2	Module 6 - Preparing to Estimate Module 7 – Fixture Takeoff
Session 3	Module 9 – Distribution Takeoff
Session 4	Module 8 – Device Takeoff Module 11 – Feeder Takeoff
Session 5	Module 10 – Ducts and Trays Takeoff Module 13 –Mechanical Equipment Takeoff
Session 6	Module 12 – Systems and Power Branch Takeoff
Session 7	Review on outstanding takeoff tasks
Session 8	Calculating material pricing and labor hours
Session 9	Bid closeout
Session 10	Bid submission