



Western Technical College

31410338 Estimating Bids and Specifications

Course Outcome Summary

Course Information

Description	This course studies the process of preparing a bid for various work to be performed in the constructional trade. Students will learn to "take off" information from plans and specifications to prepare materials estimates. Students will estimate labor costs based on industry averages for labor rates. Given the plans and specifications for multiple projects that may include: additions, remodels, new residential construction, agricultural buildings, and commercial construction, students will prepare a bid.
Career Cluster	Architecture and Construction
Instructional Level	Technical Diploma Courses
Total Credits	1
Total Hours	36

Textbooks

No textbook required.

Learner Supplies

Scientific Calculator - \$20. **Vendor:** Campus Shop. Required.

Success Abilities

1. Live Responsibly: Foster Accountability
2. Refine Professionalism: Act Ethically

Program Outcomes

1. Interpret construction drawings
2. Calculate the cost of a project

Course Competencies

1. Create cheat sheets to expedite the estimating process.

Assessment Strategies

- 1.1. Product

Criteria

You will know you are successful when

- 1.1. you complete a properly functioning Excel spreadsheet
- 1.2. you complete an accurate, current list of materials, units, and unit costs
- 1.3. you create a master form for recording major units of measurement of a residential construction project

Learning Objectives

- 1.a. Obtain a list of materials, material units, and unit costs needed for a residential construction project
- 1.b. Create an excel spreadsheet for recording materials, units, and unit costs
- 1.c. Obtain the major units of measurement for a residential construction project and create a master form for recording data

2. Interpret plans and specifications.

Assessment Strategies

- 2.1. Performance

Criteria

You will know you are successful when

- 2.1. you list materials needed to construct what is shown on plans
- 2.2. you describe the construction project as stated in the specifications

Learning Objectives

- 2.a. Demonstrate the ability to interpret blueprints for preparing a construction estimate
- 2.b. Demonstrate the ability to interpret specifications for preparing a construction estimate

3. Identify man-hours and labor costs from plans and specifications.

Assessment Strategies

- 3.1. Product

Criteria

You will know you are successful when

- 3.1. you calculate total man hours needed to complete a project within the approved range
- 3.2. you apply an hourly rate to total man-hours to determine total labor costs for a construction project

Learning Objectives

- 3.a. Divide a construction project into labor phases
- 3.b. Predict man hours needed to complete each construction phase
- 3.c. Apply labor rates to estimated man-hours needed to complete a construction project

4. Identify material orders and costs from plans and specifications.

Assessment Strategies

- 4.1. Performance

Criteria

You will know you are successful when

- 4.1. you account for all materials needed to construct a project
- 4.2. you apply unit costs to material orders to determine total cost of project

Learning Objectives

- 4.a. Select a materials supplier and obtain material units
- 4.b. Calculate materials needed to complete each construction phase
- 4.c. Increase material quantity to allow for waste when appropriate.
- 4.d. Apply unit costs to materials calculated

5. Create a professional bid proposal.

Assessment Strategies

- 5.1. Product

Criteria

You will know you are successful when

- 5.1. you create a bid proposal form that incorporates the appropriate items
- 5.2. you fill out the bid proposal form to include all necessary information

Learning Objectives

- 5.a. Determine proper layout of a bid proposal form
- 5.b. Create a professional bid proposal form
- 5.c. Write the scope of work for a construction project
- 5.d. Add percent markup for profit and overhead.