

BI 0024 - FUNDAMENTALS OF CONSTRUCTION DOCUMENTS AND ESTIMATING

Catalog Description

Formerly known as CET 24

Hours: 54 lecture

Description: Establishes a vocabulary and understanding of construction related documents including the symbols and detail views of building plans. Cost estimating to include material and labor cost calculations, specifications, problem solving, and bid preparations. (CSU)

Course Student Learning Outcomes

- CSLO #1: Interpret residential drawings to produce material takeoffs.
- CSLO #2: Identify the locations of specific information on construction documents.
- CSLO #3: Estimate labor costs and determine profit margins.

Effective Term

Spring 2021

Course Type

Credit - Degree-applicable

Contact Hours

54

Outside of Class Hours

108

Total Student Learning Hours

162

Course Objectives

1. Identify the profession in the planning, design and preparation of construction documents.
2. Apply technical math skills while performing construction material takeoffs.
3. Read architectural residential drawings to produce material takeoffs.
4. Explain what is included in a Scope of Work.
5. Evaluate subcontractor bids for accuracy and completeness.
6. Define plan views.
7. Interpret a topographic map and site plan.
8. Explain how construction documents originate.
9. Identify the locations of specific information on construction documents.
10. List the different types of estimating.
11. Differentiate material estimating formulas.
12. Estimate labor costs and determine profit margins.

General Education Information

- Approved College Associate Degree GE Applicability
- CSU GE Applicability (Recommended-requires CSU approval)
- Cal-GETC Applicability (Recommended - Requires External Approval)
- IGETC Applicability (Recommended-requires CSU/UC approval)

Articulation Information

- CSU Transferable

Methods of Evaluation

- Projects
 - Example: Major student projects will be graded according to completeness, adherence to building codes, and industry standards. The grading is determined by a grading rubric.
- Reports
 - Example: Students will create reports listing the sequence of the design process and professionals involved in specific projects. The grading is determined by a grading rubric.

Repeatable

No

Methods of Instruction

- Lecture/Discussion
- Distance Learning

Lecture:

1. Instructor facilitates classroom discussion on how to evaluate subcontractor bids. Students will produce a bid proposal from plans and specifications. (Lecture Objective 5)
2. Instructor facilitates classroom discussion on the impact of absenteeism on profit margins. Students will analyze labor statistics and costs in various geographic locations. (Lecture Objective 12)

Distance Learning

1. Students in online classes participate, individually and in groups, in discussion boards and respond to weekly assignments via the Learning Management System. The instructor will provide documented material (including videos) explaining or exploring the course content and provide individual feedback on all assignments. The instructor will lecture and provide resources regarding the preparation of construction documents. Students will then research the professions that interact with the planning, design, and creation of construction documents and blueprints. (Lecture Objective 1)

Typical Out of Class Assignments Reading Assignments

1. Read assigned pages in text book and be prepared to discuss three different methods of types of takeoffs in class.
2. Research, via the web, the increase in residential construction cost over the past 3 years and prepare a report to be presented in class.

Writing, Problem Solving or Performance

1. Prepare material takeoffs for various construction phases.
2. Prepare a complete construction estimate.

Other (Term projects, research papers, portfolios, etc.)

Required Materials

- Fundamentals of Construction Estimating
 - Author: David Pratt
 - Publisher: Cengage Learning
 - Publication Date: 2019
 - Text Edition: 4th
 - Classic Textbook?: No
 - OER Link:
 - OER:

Other materials and-or supplies required of students that contribute to the cost of the course.