

CATALOG INFORMATION

Dept and Nbr: CONS 106      Title: ESTIMATING AND BIDDING  
Full Title: Construction Estimating and Bidding  
Last Reviewed: 9/25/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	6	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable  
Grading: Grade Only  
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP  
Also Listed As:  
Formerly:

**Catalog Description:**  
Students will utilize current industry-accepted methods for doing quantity surveys for the preparation of cost estimates for construction or bidding purposes in this intermediate-level course. The culture and environment of the construction industry will be examined as related to construction estimates including methods, ethics, legal issues, and procedures.

**Prerequisites/Corequisites:**  
Course Completion of CONS 101

**Recommended Preparation:**

**Limits on Enrollment:**

**Schedule of Classes Information:**  
Description: Students will utilize current industry-accepted methods for doing quantity surveys for the preparation of cost estimates for construction or bidding purposes in this intermediate-level course. The culture and environment of the construction industry will be examined as related to construction estimates including methods, ethics, legal issues, and procedures. (Grade Only)

Prerequisites/Corequisites: Course Completion of CONS 101

Recommended:

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>CSU GE:</b>	<b>Transfer Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>IGETC:</b>	<b>Transfer Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>CSU Transfer:</b>		<b>Effective:</b>	<b>Inactive:</b>
<b>UC Transfer:</b>		<b>Effective:</b>	<b>Inactive:</b>

**CID:**

**Certificate/Major Applicable:**

Certificate Applicable Course

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Identify and describe common industry-accepted construction pricing models.
2. Apply industry-standard quantity survey methods for a common residential or light commercial project.
3. Describe the key components of a common construction bid.

### **Objectives:**

At the conclusion of this course, the student should be able to:

1. Compare and contrast the key differences between a construction estimate and a bid.
2. Assemble a rough estimate for a common residential or light commercial project.
3. Identify key omissions within a common construction bid.
4. Prepare a quantity survey for a construction project using industry-accepted procedures.
5. Describe roles and responsibilities of estimation and bid preparation construction management professionals.

### **Topics and Scope:**

- I. Pre-Bid Strategy for Project Selection
  - A. Contract documents review
  - B. Site review
  - C. Market analysis
  - D. Available workforce
  - E. Risk analysis
  - F. Company backlog
  - G. Company core competencies
  - H. Competition environment

- I. Insurance, bonds, and General Conditions
- J. Overhead and profit
- K. Project timeframe
  - 1. Short-term projects
  - 2. Long-term projects
- L. Project budget and client solvency
- M. Ethical considerations
- II. Estimating
  - A. Quantity survey fundamentals for common residential or light commercial projects
    - 1. Dimensional unit consistency
    - 2. Cross-checking meaningful results
    - 3. Validation of results
  - B. Site analysis
    - 1. Jurisdictional review
    - 2. Geotechnical report and engineering data
    - 3. Materials and equipment staging
    - 4. Jobsite security
  - C. Contingencies
  - D. Pricing formats
    - 1. Unit pricing
    - 2. Square foot cost
    - 3. Detailed breakdown
    - 4. Lump sum
    - 5. Allowances
  - E. Subcontractor and material suppliers' solicitations
  - F. Requests for Information (RFI)
  - G. Computer applications for estimating
- III. Bidding
  - A. Bidding documents
    - 1. Standard bid forms and templates
    - 2. Bid form criteria
  - B. Subcontractor comparative bid analysis
  - C. Material suppliers comparative bid analysis
  - D. Bid presentation and opening
  - E. Bid follow-up for market analysis
  - F. Ethics
    - 1. Bid shopping
    - 2. Unbalanced bid
    - 3. Known under-representation of client risk or cost exposure
    - 4. Avoiding conflicts of interest
    - 5. Observing laws and regulations
      - a. Permits
      - b. Professional consultation

**Assignment:**

- 1. Reading assignments (20-50 pages per week)
- 2. Study question sets (1-3 weekly)
- 3. Quiz(zes) (1-4)
- 4. Midterm exam
- 5. Interview or research report paper(s) (1-3)
- 6. Final project estimate and presentation

## 7. Project quantity survey(s) (1-4)

### Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Interview or research report paper(s)

Writing  
5 - 10%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Study question sets; project quantity survey(s)

Problem solving  
30 - 60%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations  
0 - 0%

**Exams:** All forms of formal testing, other than skill performance exams.

Quiz(zes); midterm; final project

Exams  
30 - 50%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Class participation and presentation

Other Category  
5 - 10%

### Representative Textbooks and Materials:

Estimating in Building Construction. 9th ed. Peterson MBA PE, Steven and Dagostino, Frank. Pearson. 2018 (classic).

Instructor prepared materials