

CONS 106 Course Outline as of Fall 2022**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	2.50	17.5	Lecture Scheduled	43.75
Minimum	3.00	Lab Scheduled	1.50	6	Lab Scheduled	26.25
		Contact DHR	0		Contact DHR	0
		Contact Total	4.00		Contact Total	70.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 87.50

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:

In this intermediate level course, students will utilize current industry-accepted methods for doing quantity surveys for the preparation of cost estimates for construction or bidding purposes. Course will also examine the culture and environment of the construction industry 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: In this intermediate level course, students will utilize current industry-accepted methods for doing quantity surveys for the preparation of cost estimates for construction or bidding purposes. Course will also examine the culture and environment of the construction industry 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:

AS Degree: **Area** Effective: Inactive:

CSU GE: **Transfer Area** Effective: Inactive:

IGETC: **Transfer Area** Effective: Inactive:

CSU Transfer: Effective: Inactive:

UC Transfer: Effective: Inactive:

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. Compare and contrast the primary differences between preparing an estimate and preparing a bid for a residential or light commercial construction project.
2. Utilize industry accepted quantity survey methods for a residential or light commercial construction project and apply construction pricing models to obtain an estimated project cost.
3. Explain the roles and responsibilities of professionals in the construction industry as they relate to the preparation of construction estimates and bid preparation.

Objectives:

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

1. Prepare a thorough quantity survey for a construction project using correct documentation procedures with accurate results.
2. Utilize industry standard methods for applying construction costs to quantity surveys in order to create an accurate construction estimate.
3. Assemble an estimate for a project and identify any omissions to create a complete scope of work.
4. Interview local professionals in the construction industry responsible for creating bid estimates or tracking project costs.

Topics and Scope:

Lecture and Lab

- 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
 - J. Insurance, bonds, and General Conditions
 - K. Overhead and profit
 - L. Project timeframe
 - 1. Short-term projects
 - 2. Long-term projects
 - M. Project budget and client solvency
 - N. Ethical considerations
- II. Estimating
- A. Quantity survey fundamentals
 - 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

All topics are covered in the lecture and lab portions of the course.

Assignment:

Lecture:

1. Reading assignments (20-50 pages per week)
2. Quiz(zes) (1-4)
3. Midterm exam
4. Interview research paper(s) (1-3)
5. Final exam: Final project estimate and presentation

Lab:

1. Quantity survey problems (6-12)
2. Construction cost research problems (6-12)

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 research paper(s)

Writing
5 - 10%

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

Quantity surveys and cost research problems

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, and 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 edition. Peterson MBA PE, Steven and Dagostino, Frank. Pearson. 2018

Instructor prepared materials