

**CONS 73 Course Outline as of Fall 2019****CATALOG INFORMATION**

Dept and Nbr: CONS 73 Title: ESTIMATING WITH COMPUTER

Full Title: Estimating with Computers

Last Reviewed: 1/28/2019

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.50	Lecture Scheduled	1.00	17.5	Lecture Scheduled	17.50
Minimum	1.50	Lab Scheduled	2.00	8	Lab Scheduled	35.00
		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: 35.00

Total Student Learning Hours: 87.50

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:**

Creation of cost estimates for residential and/or commercial projects using an industry-accepted computer program.

**Prerequisites/Corequisites:**

Course Completion of CONS 70B

**Recommended Preparation:**

Course Completion of CS 61.11A

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Creation of cost estimates for residential and/or commercial projects using an industry-accepted computer program. (Grade Only)

Prerequisites/Corequisites: Course Completion of CONS 70B

Recommended: Course Completion of CS 61.11A

Limits on Enrollment:

Transfer Credit: CSU;

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>	Transferable	<b>Effective:</b>	Fall 1999	<b>Inactive:</b>	
<b>UC Transfer:</b>		<b>Effective:</b>		<b>Inactive:</b>	

**CID:**

### **Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

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

1. Prepare a quantity survey and estimate for a residential or commercial construction project using an industry-accepted computer program.

### **Objectives:**

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

1. Demonstrate ability to use an industry-accepted computer program for estimating.
2. Research and organize information needed for producing a quantity survey and estimate.
3. Produce estimate reports.

### **Topics and Scope:**

#### **I. Introduction and Overview**

- A. Review of principles of quantity surveying
- B. Review of principles and types of estimates

#### **II. Software Organization and Capabilities**

- A. Estimating software program functions
- B. Understanding the basic commands
- C. Establishing formulas
- D. Accuracy and checking work
- E. Types of reports
- F. Using the program

#### **III. Quantity Survey Data**

- A. Using printed construction documents to determine quantities
- B. Using electronic documents to determine quantities
- C. Standard units of measure
- D. Case studies and application

#### **IV. Construction Costs Data**

- A. Determine time and pay for labor required for construction tasks
- B. Determine costs of construction materials and equipment
- C. Determine administrative cost of a construction contract

- D. Case studies and application
- V. Quantity Survey and Cost Estimates
  - A. Generating preliminary reports
  - B. Updating information
  - C. Formats for final reports
  - D. Case studies and application
- VI. Student Project
  - A. Review of construction documents
  - B. Setting up the quantity survey and estimate
  - C. Acquiring and entering the quantity survey data
  - D. Acquiring and entering the cost data for labor, materials, equipment, and administration
  - E. Accuracy and checking work
  - F. Producing reports

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

### Assignment:

#### Lecture-Related Assignments:

1. Assigned reading (20-30 pages per week)
2. Problem solving assignments (6-18)
3. Skills demonstration exercises (4-8)
4. Quizzes (2-4)
5. Final Exam

#### Lab-Related Assignments:

1. Estimating project (1)

### 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.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing  
0 - 0%

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

Problem solving assignments and project

Problem solving  
30 - 50%

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

Skill demonstration exercises

Skill Demonstrations  
30 - 50%

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

Quizzes and final exam

Exams  
10 - 20%

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

Attendance and participation

Other Category  
0 - 10%

**Representative Textbooks and Materials:**

Fundamentals of Construction Estimating. 4th ed. Pratt, David. Cengage Learning. 2019  
Construction Estimating Using Excel. 3rd ed. Peterson, Steven. Pearson Publishing. 2018  
Instructor prepared materials