

CE 556: PROJECT CONTROLS-BUDGETING & ESTIMATING

LECTURE MEETING: Class will be held **Wednesday** from 6:40-9:20pm weekly.

OFFICE HOURS: By appointment
Professor: Scotty Galloway email: sgallowa@usc.edu
TA: Eyuphan Koc email: ekoc@usc.edu

COURSE DESCRIPTION:

This course addresses the basic techniques and approach to construction budgeting and estimating.

COURSE LEARNING OBJECTIVES:

Upon successful completion of this course, students will (at a minimum) be able to:

- Identify, define, and evaluate major components of a project budget.
- Associate the correct units to various building trades
- Perform quantity take-offs
- Set-up and follow consistent estimating process to allow for easy review and updating
- Incorporate unit pricing into take-offs to develop estimate
- Determine and incorporate productivity rates into estimate
- Utilize Excel and BlueBeam software in the estimating process

REQUIRED TEXTBOOK AND SOFTWARE

Pratt, David, Fundamentals of Construction Estimating, 3rd edition, Clifton Park, NY, Delmar Cengage Learning, 2011

BlueBeam Revu

Microsoft Excel

ASSIGNMENTS, ASSESSMENTS, AND EVALUATIONS

Discussion: Students are expected to participate in on-line discussions on a weekly basis. Students are expected to make ONE original, thoughtful, post each week and provide ONE thoughtful response to other students' posts. "I agree" is not thoughtful content. Content should be a short paragraph, 3-4 sentences.

Homework: NO late assignment will be accepted unless approved ahead of time by the instructor. Assignments are due prior to the start of the following class unless otherwise noted.

All assignments should be submitted using the DTL website. Your name and the assignment title/number must be included in the text of the documents. The filename of your submissions should include your last name and assignment description. e.g. Galloway HW3

Assignments should be submitted in .pdf format unless otherwise requested. Note: Mark-ups must be "flattened" prior to uploading or they will not be visible during evaluation.

Individual Paper: Students are required to conduct an interview with an industry professional. If you are currently working for a construction company, your subject must work outside of your company. Subjects within your organization will be approved on an individual basis.

Students will submit a well-written paper based on their interview. The paper is not to be a transcript of the interview. The subject of the paper is not prescriptive and not limited to "estimating." There is no page minimum or maximum. It should represent a professional product reflective of 20% of your overall grade.

Quizzes: The course will have an undetermined number of quizzes and may or may not be announced in advance.

Mid-term: The mid-term will test your individual ability to complete accurate quantity take-offs, knowledge and understanding of content from lectures and the course textbook.

Team Project: Teams consisting of 3-4 students will be formed based on students' preferences. Otherwise, students will be assigned to teams by the instructor. Each team needs to identify a team leader and to communicate that decision to the instructor. Teams electing to use 3 students will be required to complete the same quantity of work as teams of 4 students. Teams of 2 require instructor approval.

TEAM PROJECT REQUIREMENT: Project documents and scope will be assigned to each team. The project must be submitted electronically. The Team will present a professional work product including a cover page, estimate summary, detailed backup, and assumptions utilizing the software of your choice.

PERFORMANCE REQUIREMENTS

All written deliverables are expected to be well-written, professional work

products. All written material shall be carefully crafted and checked prior to submission. While quality of content is critical, it is essential that your writing be correct in terms of grammar, usage, and style. The content for the various written deliverables shall be synthesized from the required reading and independent research. Graphics should be clear, attractive, and must add value to the work, not merely serve as filler. Be sure to cite the source of any graphics or photos which are not original work, i.e. that which you did not create. All work must be clearly and uniquely identified with an appropriate cover.

LEARNING ASSESSMENT/GRADING STRUCTURE

The final grade of the course will be determined in consonance with the following schedule:

	<u>Percent</u>
Discussions	10
Homework	20
Quizzes	10
Individual Paper	20
Mid-term	15
Final Project	<u>25</u>
	100

Note: These weights may be changed at the discretion of the instructor to reflect the emphasis placed on material during the conduct of the course.

GRADE RANGE

A ≥ 94.0	82.0 > C+ ≥ 79.0
94.0 > A- ≥ 91.0	79.0 > C ≥ 75.0
91.0 > B+ ≥ 88.0	75.0 > D ≥ 70.0
88.0 > B ≥ 85.0	70.0 > F
85.0 > B- ≥ 82.0	

CE 556 Outline of Class Lectures and Assignments

Week	Date	Topic	Reading	Assignments	Due
1	10-Jan	Introductions	Pratt 1,2,3	HW1: Take-off Template HW2: Individual Paper Subject	17-Jan 21-Feb
2	17-Jan	Earthwork and Shoring	Pratt 4, CPE Paper	HW3: Cut/Fill Take-off	24-Jan
3	24-Jan	Measuring Concrete	Pratt 5	HW4: Concrete Take-off	31-Jan
4	31-Jan	BlueBeam Demonstration		HW5: BlueBeam Formating	7-Feb
5	7-Feb	Measuring Masonry, Carpentry	Pratt 6,7	HW6: Masonry Take-off	21-Feb
6	14-Feb	Pricing in General	Pratt 8	Individual Paper HW7: Project Team	11-Apr 7-Mar
7	21-Feb	Pricing Concrete/Masonry/Etc.	Pratt 11,12	HW8: Concrete Pricing	28-Feb
8	28-Feb	Productivity			
9	7-Mar	Mid-term		Project Team Due	7-Mar
10	14-Mar	Spring Break - No Class			
11	21-Mar	Guest Lecture - Budgeting			
12	28-Mar	Pricing Subcontractors and Overhead	Pratt 13,14,15		
13	4-Apr	Pricing Subcontractors and Overhead		HW9: Pricing General Conditions	11-Apr
14	11-Apr	Project Budgeting	Pratt 16,17,18,19	HW10: Project Budget Individual Paper Due 6:30pm	18-Apr 11-Apr
15	18-Apr	Project Day - No Class			
16	25-Apr	Bid Day Exercise		HW11: Bid due end of class	25-Apr
17	2-May	Final Project			

Additional reading assignments will be given throughout the term. The course outline may be adjusted to adapt to students' interests and learning progress.