The University of Southern Mississippi
College of Science and Technology- School of Construction BCT 455L - Estimating Lab

COURSE SYLLABUS

Instructor:
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School of Construction
118 College Drive, #5138
Hattiesburg, MS 39406-0001
601-266-5185 (phone)
601-266-5717 (fax) Desmond.fletcher@usm.edu

Office Hours:
TEC 250B: See door schedule.

Prerequisite Topics:
Quantity take-off, scheduling, PC skills, basic spreadsheet familiarity, written and oral communication.

Course Description:
BCT 455L: Estimating II Lab. 1 hr., Co-requisite: BCT455.

Course Overview:
This course is designed for you to attain knowledge (from lectures and readings) which is critical to your future construction career. This knowledge is applicable to all construction roles you may perform in industry, not just that of ‘estimator’. It is rigorous and time consuming so you should seriously consider that in context of other courses and projects which will compete with your available time. You may not take the lecture and the lab portions of the course separately as they are monolithically delivered and graded. The lecture portion of the course offers a body of knowledge required for you to develop the course deliverables; which ultimately is a working estimating application which you will develop utilizing spreadsheets. The lab portion of the course is intended for you to have access to the spreadsheet and software applications with guidance from the instructor. The assignments will require additional time outside of lab, so make arrangements to have access to these tools outside of our meeting times.
**Learning Outcome:**
To acquire the skills and knowledge of construction estimate and proposal development.

**Course Objectives:**
1. Identify and assemble the components of a construction cost estimate
2. Be familiar with the start up activities for assembling a complete bid
3. Categorize work into various scope packages
4. Determine general conditions and overhead costs
5. Determine labor, material, equipment and subcontractor costs
6. Evaluate and analyze bids from subcontractors, suppliers and vendors
7. Handle post-bid adjustments and final scopes of work
8. Prepare a complete bid for sample projects
9. Work with spreadsheets to analyze and compare bids
10. Discuss ethics when preparing, submitting, and evaluating bids

In order to accomplish the above objectives, the student will learn the following estimating processes:

1. **Setup** the bid process by a) utilizing coding systems, databases, and software applications, b) schedule office tasks, and c) develop charge rates for labor, equipment, and material resources.

2. Evaluate and plan the **scope** of the project including a) visualizing and interpreting design documents, b) identify and develop pay items, c) extract quantity data from design documents, and d) specify resource requirements and construction methods to complete work packages and activities.
3. **Cost** out the project to include a) preparation, delivery, receipt and analysis of RFQs, b) development of preliminary construction schedules, c) estimate productivity required for work packages and activities, and d) develop oral and written presentations of technical data.

4. **Price** out the project to include a) allocating appropriate of business overhead to pay items, b) balance and unbalance pay items with profit spreads, and c) statistically increase the odds of return on investment.

5. **Review** the project bid to effectively and efficiently automate the incorporation of changes.

6. Prepare the **bid** documents and data as Contract Documents following stated bid package directions and procedures.

7. **Launch** the Build process by a) incorporating schedule changes and differentiating between schedule detail levels, b) assign and organize the Price Breakdown Structure (PBS) by account, c) prepare content for communicating project information to the construction management team, and d) prepare documents for performance and payment tracking and assessment.

8. Discuss **ethics** when preparing, submitting, and evaluating bids.

**Evaluation Criteria:**

Assessment percent of grade (note--students cannot pass the course without completing all assessments):

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>20%</td>
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<tr>
<td>Project 1</td>
<td>20%</td>
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<tr>
<td>Project 2</td>
<td>20%</td>
</tr>
<tr>
<td>Project 3</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
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</tbody>
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**Grading Scale:**

- **90 to 100 A – Excellent Work: Goes Beyond the requirements of the subject**
  Criteria: Advance understanding of the subject, thoughtful analysis of the problem, clear communication of ideas, depth of understanding in connecting theory to practice, provocative, scholarly treatment of the subject, and creative/imaginative connections or examples

- **80 to 89 B – Good Work: Fully achieves the requirements of the subject**
  Criteria: Knowledge and depth of understanding of the subject, clear communication of ideas, examines the implications of theory to practice, analysis of the problem, and implementation of solutions.

- **70 to 79 C – Average Work: Substantially completes the requirements of the subject**
  Criteria: Knowledge of the subject, adequately communicates ideas but lacks insight, implications drawn are limited in scope and not connected, not attempt to go beyond the minimum requirements of the subject

- **60 to 69 D – Inferior Work: Inadequate attempt in completing the requirements**
  Criteria: Limited knowledge of the subject, inadequate communication of ideas, completes less than minimum requirements of the subject.
- **0 to 59 F – Failure: Noncompliance with basic requirements of the class**
  Criteria: Blatant disregard for requirements.

**Course Communication:**
The main mode of communication will be through the course website (BlackBoard course materials and discussion board) and Southern Miss email.

**Required Text:**

**Recommended Textbooks:**


**Library Resources:**
The USM Library can be accessed online at: [http://www.lib.usm.edu/](http://www.lib.usm.edu/)

**Class Procedures and Requirements:**
To succeed in this course you will need to do the following:

- Read the assigned material before attempting the exercises as designated in the reading schedule and ask questions regarding material which you do not comprehend or in which you need clarification.

- Do your own work. This class, because it involves electronic media and time discipline, affords opportunities to cheat. Think very seriously about this as the ramifications could be an F in the course. Read the Academic Honesty portion of this document.

- Be as proactive as you can possibly be in the development of your spreadsheets and schedule applications. **If you procrastinate or under-estimate the time required to produce the deliverables, you will not get them finished.** Such situations can tempt the mind for an easy fix...read the above bullet again.

Your comprehension of the reading and lecture material will be assessed via tests or assignments. Your application (skills) of the theory portion of the course will be assessed by (lab) submission of electronic spreadsheets at periodic intervals and as a final project. You will develop individual spreadsheet ‘estimating forms’ and then integrate them together for a working estimating application which you can take with you and utilize in industry.

You may incur COSTS for REPRODUCTION of contract documents which will be utilized in the Laboratory section of the course.

All submissions to the instructor will be with formal Transmittal Cover Sheets unless otherwise directed. Failure to follow this instruction will result in a deduction of 10 points from the graded deliverable.

**ADA Compliance:**
If a student has a disability that qualifies under the American with Disabilities Act (ADA) and requires accommodations, he/she should contact the
Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact ODA if they are not certain whether a medical condition/disability qualifies.

Address:

The University of Southern Mississippi
Office for Disability Accommodations
118 College Drive # 8586
Hattiesburg, MS 39406-0001

Voice Telephone: (601) 266-5024 or (228) 214-3232
Fax: (601) 266-6035

Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1-800-582-2233 (TTY) or email Suzy Hebert at Suzanne.Hebert@usm.edu.
Computer Competencies:
Students are expected to have basic experience with the generic applications. At the end of the course they will be proficient with the course-specific applications. The instructor will ‘guide’, not ‘train’ students in the use of software applications, therefore, significant time and effort are required to learn these systems:

<table>
<thead>
<tr>
<th>Software</th>
<th>Application</th>
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<tbody>
<tr>
<td>Spreadsheet</td>
<td>Code, WBS, Budget creation</td>
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<tr>
<td>Word processor</td>
<td>Report, summary, document creation</td>
</tr>
<tr>
<td>Slide presentation</td>
<td>Report communication</td>
</tr>
<tr>
<td>Email Client</td>
<td>Course business, administration, submittals</td>
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<tr>
<td>U.S.Cost or WinEST</td>
<td>Web-based estimating software</td>
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Technology Requirement

Hardware requirement:
- Capable of running Windows 7, 2000, Vista
- VGA or higher resolution monitor
- CD Drive (Burner)
- Hard disk with 40 MB free space
- A headset microphone (optional)
- Digital Camera (For Site Visit) (optional)
- Video computer camera (Web-cam) - (optional) Scanner (To Scan Construction Documents)

Internet requirement:
- At least 1 mbps

Software requirements:
- Web Browser (Internet Explorer, Mozilla (Freeware)) Microsoft Word, (License Required)
- Microsoft Excel (License Required) WinZip (Freeware) (optional) Adobe Reader (Freeware)

Late Assignments:
In order to emulate the nature of the industrial bidding environment, late work will not be accepted regardless of the amount of effort expended in the assignment or project. The only exceptions are documented ‘acts of God’, death or illness in the family, or personal illness.

Academic Honesty:
Students are expected to do their own work on all graded course assignments including quizzes, tests, etc. 
except when the professor indicates that collaboration is permitted. Faculty reserves the right to impose the appropriate sanctions in the event that a student cheats or refuses to sign the honesty statements on all graded material.

The following is from the USM Graduate and Undergraduate Bulletins:
“When cheating is discovered, the faculty member may give the student an “F” on the work involved or in the course. If further disciplinary action is deemed appropriate, the student should be reported to the dean of students. In addition to being a violation of academic honesty, cheating violates the Code of Student Conduct, as published in the Student Handbook and may be grounds for probation, suspension, and/or expulsion. Students on disciplinary suspension may not enroll in any courses offered by The University of Southern Mississippi.”

Students must send the instructor an e-mail stating that they understand USM’s academic honesty policy and also understand that if they do not uphold the standards of academic honesty, the instructor will enforce all applicable punishment.

Please make sure that you understand the difference between collaboration and performing your own work. Collaboration involves communicating with others regarding techniques, methods, and ideas and is acceptable. It does not include dividing up work between a group which should be accomplished individually. Be very careful with the electronic spreadsheets as all portions of each spreadsheet should be accomplished by the INDIVIDUAL. The only work we will do in this class as a group involves quantity
take-off for a standardized WBS. After this is accomplished, all work will be created and performed by the individual student.

**Professionalism:**
Is expected at all times. I will conduct myself and the relationship with you based upon what is standard protocol in the construction industry. If this course is offered in traditional face-to-face format, do not sleep during my lectures or guest lectures (stand up or excuse yourself politely if you cannot remain awake); do not conduct computing sessions during my lectures; and, do not, with the exception of extenuating circumstances, use mobile phones or pagers during my lectures.

**Classroom Participation:**
Is expected and encouraged. It supplies feedback for my lectures and benefits the entire class. This course is laboratory and project intensive (>50% of Grading Assessment). You will be challenged and required to master spreadsheet use. Grades on the Midterm Exam and on Lab Assignments will be the only indicators of your progress (or lack of) before the Final Drop Date stated above. I will present to you the anatomy of a cost estimate and proposal, as well as answer any questions from the lectures, texts, reference materials, handouts, and laboratories. You will be expected to take this information and develop estimates and proposals on your own, asking questions and advice as you make progress. This will be time intensive, so plan for it and don’t waste lecture or lab time. The schedule will vary depending upon the class and material to be covered. This course requires substantial effort by each individual. Much like your future pursuits in industry, you must be self-motivated. Procrastinating can be devastating to your ability to finish assignments on time, and therefore devastating to your grade. Stay current with your assignments and be proactive by gaining early starts on assignments due later in the semester.

**Drop Date & Financial Deadlines**
The last day to drop a course without receiving a grade on the transcript and without permission from an instructor is now the same day that you must drop the course to avoid being charged tuition by the drop without permission deadline. Courses dropped after this date will result in a W on your transcript.

**Timeline for Fall 2014 (regular-session classes): August 27, 2014**
- Last day to drop a course without special permission from instructor and chair
- Last day to drop without receiving a grade on transcript
- Last day to drop without financial penalty

**August 28, 2014**
- Dropping a course requires special permission from instructor and chair
- Dropped courses will receive a grade of W through October 31, 2014
- Student is charged for dropped classes and is responsible for any other expenses incurred on the student account

**November 1, 2014**
- Student will receive a letter grade (A-F) for the course
I reserve the right to make fair and equitable adjustments to this syllabus by way of addendum.