



**Purpose:** It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of Wharton County Junior College, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction.

**Course Title** - Construction Estimating I

**Course Prefix and Number** – CNBT 1346

**Department** - Engineering Design

**Division** - Technology and Business

**Course Type:** (check one)

- Academic General Education Course (from ACGM – but not in WCJC Core) Unique Need
- Academic WCJC Core Course
- WECM course (This course is a Special Topics or Unique Needs Course: Y or N)

**Semester Credit Hours #: Lecture Hours #: Lab/Other Hours #:**    3:3:0

**Equated Pay hours for course** - 3

**Course Catalog Description** - Fundamentals of estimating materials and labor costs in construction.

Introduction to the skills and tools necessary to prepare cost estimates for construction projects; focuses on blueprint reading and material quantity.

**Prerequisites/Co-requisites** – CNBT 1309 or ENGT 2304 and CNBT 1302

List Lab/ Other Hours
Lab Hours
Clinical Hours
Practicum Hours
Other (list)

**Prepared by** :Division of Technology and Business

**Date:** 06-11-15

**Reviewed by Department Head:** Jo Ann Shimek

**Date:** 06-11-15

**Accuracy Verified by Division Chair:** David Kucera

**Date:** 07/15/15

**Approved by Dean or Vice President of Instruction:** Leigh Ann Collins

**Date:** 12-18-15



**I. Topical Outline** – Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, clinical or other non-lecture instruction):

- Estimating Procedures
- Estimating Materials from Blueprints
  - Architectural – including:
    - wall and floor coverings; windows and doors; finishes and accessories
  - Civil – including:
    - underground utilities; earthwork
  - Structural – including:
    - reinforced concrete; structural steel; masonry units; timber construction
  - Mechanical – including:
    - piping; instrumentation (P&ID's); Ducts; equipment and accessories
  - Electrical Plans – including:
    - cables and wires; conduits and cable trays; equipment and accessories
- Estimating costs of waste, removable, and recycling related to sustainable construction process
- Labor cost calculations
- Quantity takeoff for work items
- Use of computer software to prepare required deliverables

**II. Course Learning Outcomes**

Learning Outcomes	Methods of Assessment
<p><b>Upon successful completion of this course, students will:</b></p> <ol style="list-style-type: none"> <li>1. Explain estimating procedures</li> <li>2. Estimate materials from blueprints</li> <li>3. Estimate cost of waste removable and recycling related to sustainable construction processes</li> <li>4. Calculate labor units and costs</li> <li>5. Read Blueprints</li> <li>6. Perform quantity takeoff for various work items</li> <li>7. Utilize computer software to prepare required deliverables</li> </ol>	<p>Outcomes 1-7 will be assessed by:</p> <p>Quizzes Class work Final Exam</p>

**III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.**

Basic Estimating for Construction, 2nd ed; by James A.S. Fatzinger  
 Applied Cost Engineering by Forrest D. Clark  
 Fundamentals of Construction Estimating, by Pratt; Thomson Delmar Learning

**IV. Suggested Course Maximum – 20**

**V. List any specific spatial or physical requirements beyond a typical classroom required to teach the course.**

Computer work station to include printers/plotters, projection system and appropriate software.

**VI. Course Requirements/Grading System – Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course**

Student's grade will be determined by:

**Approximate grade summary**

Quizzes - 80%

Final - 20%

A = 100 -90

B = 89-80

C = 79-70

D = 69-60

F = 59 or below

**Students must earn a "C" or above in all degree specific classes in order to graduate**

**VII. Curriculum Checklist**

- **Academic General Education Course** (from ACGM – but not in WCJC Core)  
No additional documentation needed

- **Academic WCJC Core Course**  
Attach the Core Curriculum Checklist, including the following:

- Basic Intellectual Competencies
- Perspectives
- Exemplary Educational Objectives

- **WECM Courses**  
If needed, revise the Program SCANS Matrix & Competencies Checklist.