

SYLLABUS

LAST REVIEW	Fall 2022
COURSE TITLE	Construction Estimating
COURSE NUMBER	BEMT 0249
DIVISION	Career and Technical Education
DEPARTMENT	BEMT
CIP CODE	46.0401
CREDIT HOURS	3
CONTACT HOURS/WEEK	Class: 3
PREREQUISITES	BEMT 0108, BEMT 0188

COURSE DESCRIPTION

This course is the basic carpentry course. It is in alignment with NCCER and the Kansas Board of Regents. It is (in part) a component of the Core Curriculum for the KCKCC Building Engineering and Maintenance Technology program. The course topics include: Estimating the construction project from start to finish, building a complete project schedule for each phase of the project, and each trade for the project, cost and scope analysis of trade/contractor bids. Students will complete several project estimates, with sample contractor bids, and build their complete estimate for each project. Environmentally sustainability, Orientation to the construction process

PROGRAM LEARNING OUTCOMES

Students will demonstrate a proficiency reading architectural prints, providing project cost estimates, adhering to professional communication skills, demonstrating professional work ethic skills, showing proficiency in trade math essentials, and trade measurements.

TEXTBOOKS

<http://kckccbookstore.com/>

METHOD OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE

I. PRE-CONSTRUCTION ESTIMATING

- A. Contracts
 - B. Insurance
 - C. Bonding
 - D. Licensing
 - E. Permits
 - F. Drawings
 - G. OSHA Compliance
 - H. Restrooms
 - I. Access for material delivery/Access for work
 - J. Storage for materials/tools
 - K. Traffic control/dust control/erosion control
 - L. Waste/Trash removal
 - M. Security/Security fencing
- II. TRADE ESTIMATING
- A. Architectural drawings, reading and take-off.
 - B. Build trade assembly block on estimate.
 - C. Quantifying take-off and pricing.
 - D. Build Excel Spreadsheet with formulas.
 - E. Build complete project schedule for phasing and trades.
- III. CONSTRUCTION TRADE ESTIMATES
- A. Excavation Estimate with assembly building.
 - B. Temporary Utilities pricing for install and removal.
 - C. Temporary lighting pricing for install and removal
 - D. Control measures: erosion, dust control pricing
 - E. Temporary Offices
 - F. Utility installs and taps, meters, permits, ground pits, pricing
 - G. Structural material Lumber take-off and estimate
 - H. Steel fabrication and erection take-off and estimate
 - I. Concrete and Masonry take-off and estimate
 - J. Landscape/Irrigation/Hardscape take-off and estimate
 - K. Electrical/Lighting/Security lighting take-off and estimate
 - L. Data systems, Phone, internet, Security pricing
 - M. Fire Protection system take-off and estimate
 - N. Mechanical-HVAC take-off and pricing
 - O. Plumbing and Waste take-off and estimate
 - P. Thermal and Moisture Protection take-off and estimate
 - Q. Roofing take-off and estimate
 - R. Guttering pricing
 - S. Drainage pricing
 - T. Openings: Windows and Doors take-off, pricing, and estimate
 - U. Stairs, Elevators, Escalators, ramps pricing
 - V. Painting: interior and exterior take-off and estimate
 - W. Interior and exterior trim take-off and estimate

- X. Exterior finishes: Siding, Decks, Patios, Brick, Block, Stone, Stucco take-off and estimate
- Y. Interior/Exterior Flooring take-off and estimate
- Z. Furnishings: Pools, Furniture, Cabinets, Vanities, Appliances pricing

COURSE LEARNING OUTCOMES

Upon successful completion of this course, the student will:

- A. Read and interpret residential construction plans.
- B. Build an assembly for how each part of the construction trade is established.
- C. Perform various quantity take-offs for various construction trades.
- D. Account for all construction pre-build costs.
- E. Perform various math skills, in determining the cost estimate.
- F. Formalize a detailed estimate.
- G. Learn the proper staging of construction, the proper schedule, and how to schedule each trade or scope of work.

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES

Student Handbook

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

College Catalog

<https://www.kckcc.edu/academics/catalog/index.html>

College Policies and Statements

<https://www.kckcc.edu/about/policies-statements/index.html>

Accessibility and Accommodations

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>.