Ohio Articulation Number (OAN)
Course Submission Form
2005-2006

College/University  Cuyahoga Community College

Course(s) Submitted (Title & Course #)  Construction Methods, Materials and Equipment, CNST - 2130 for
Ohio Articulation Number  OET016

Date  September 6, 2006  Course  1 of a  1 Course OAN mapping.

Name and title of individual submitting on behalf of the college/university

Name  Peter Ross  Title  District Director, Transfer and Alternative Credit

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Credit Hours  3 qtr  x
Lecture Hours  3
Laboratory Hours  0 (if applicable)
Pre-Requisites(s) Course work (if applicable)
CNST-1730 Construction Print Reading ; or departmental approval

Placement Score (if applicable)
(Name of test)  
(Domain)  (Score)

Catalog/Course Description (Includes Course Title and Course #)
Fall 2005-Summer 2007- Construction Methods, Materials and Equipment, CNST – 2130
Study of common construction approaches including pre-fabrication practices,
modularization, and traditional site erection means. Construction materials and properties; testing methods; equipment usage, attributes, cost, and availability discussed. Includes 10-hour OSHA training program.

Texts/Outside Readings/Ancillary Materials
See Official Course Outline

Course Objectives and/or Plan of Work

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Board of Trustees Date: 05/27/04
Effective Date: 08/23/01

CUYAHOGA COMMUNITY COLLEGE
OFFICIAL COURSE OUTLINE

SUBJECT AREA TITLE
Construction Engineering Technology
COURSE TITLE
Construction Methods, Materials and Equipment
SUBJECT AREA CODE-COURSE NUMBER
CNST - 2130
COURSE CREDIT HOURS
3

I. DESCRIPTION OF COURSE:

1. CATALOG DESCRIPTION

   Study of common construction approaches including pre-fabrication practices, modularization, and traditional site erection means. Construction materials and properties; testing methods; equipment usage, attributes, cost, and availability discussed. Includes 10-hour OSHA training program.

2. LECTURE HOURS: 3

3. LAB HOURS: None

4. OTHER REQUIRED HOURS: 00

5. PREREQUISITE(S):
   CNST-1730 Construction Print Reading ; or departmental
II. OUTCOMES/OBJECTIVES:

Upon satisfactory completion of CNST 2130 - Construction Methods, Materials and Equipment, the student should be able to perform the following outcomes and supporting objectives:

A. Recognize, identify, and analyze construction methods and procedures according to contract specifications.
B. Distinguish the various types of material testing methods used for common construction practices.
C. Classify and prioritize equipment required for common construction practices.
D. Predict and compare equipment costs for preliminary estimation of construction projects.
E. Describe, identify, and differentiate common approaches for structural erection in residential and commercial construction.
F. Characterize properties of various materials used in the construction industry.
G. Interpret and apply OSHA rules to case studies.

III. COURSE CONTENT:

A. Construction as an industry
   1. Building systems and types of construction
   2. Construction materials
   3. Zoning ordinances and building codes
      a. regional and national codes
      b. trade associations
   4. Using metrics in construction

B. Material properties
   1. Metal, ceramic, and organic material groups
   2. Mechanical properties
   3. Thermal properties
   4. Electrical properties
   5. Chemical properties

C. Site construction
   1. Site plans
   2. Site preparation
      a. earthwork requirements
      b. heavy equipment
c. soil testing
3. Site work activities
4. Foundation types and design
D. Concrete for construction
  1. Aggregate mixture
  2. Concrete tests
  3. Concrete types
     a. cast-in-place
     b. pre-cast
E. Ceramic building materials
  1. Stone
  2. Brick
  3. Ceramic tile
  4. Masonry construction
F. Metals for construction
  1. Ferrous metals
     a. steel products
     b. structural properties
     c. metal testing
  2. Non-ferrous metals
     a. corrosion characteristics
     b. thermal and electrical conductivity
     c. non-ferrous metal types
  3. Steel frame construction
     a. erection and fastening
     b. fire protection
     c. decking and trusses
     d. pre-engineered systems
G. Organic materials for construction
  1. Wood products
     a. lumber types and sizes
     b. lumber grades and tests
     c. structural properties
     d. wood preservatives and treatments
     e. typical manufactured wood products
  2. Engineered wood products
     a. panel products
     b. laminated beams
     c. trusses and joists
  3. Wood frames for construction
     a. platform framing
     b. balloon framing
     c. pole construction
H. Thermal and moisture protection
  1. Bonding agents and sealants
2. Waterproofing coatings

I. Equipment for construction
   1. Equipment categories
   2. Equipment vendors and publications
   3. Equipment purchase vs. lease

J. Construction safety -- U.S. Department of Labor OSHA 10 hour training program
   1. Introduction to OSHA
   2. Electrical
   3. Fall protection
   4. Excavations
   5. Hand and power tools
   6. Personal protective and life saving equipment
   7. Materials handling, storage, use and disposal
   8. Scaffolds
   9. Cranes, derricks, hoists, elevators and conveyors
   10. Stairways and ladders

IV. METHODS OF STUDENT EVALUATION MAY INCLUDE ANY OF THE FOLLOWING:

A. Quizzes
B. Homework
C. Tests
D. Lab assignments
E. Final project
F. Written assignments
G. Participation
H. Oral presentations

V. RESOURCES MAY INCLUDE ANY OF THE FOLLOWING:

C. Spence, William. Construction
VI. ADDITIONAL RESOURCES:
Description of Assessment and/or Evaluation of Student Learning
See Official Course Outline
Master Syllabi and Working Syllabi (if both are used)
Additional Documentation

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