CONCRETE & REINFORCING MATERIALS
Course Syllabus

Course Number: ARCO-0492  
OHLAP Credit: No
OCAS Code:  
None
Course Length: 15 Hours
Career Cluster: Architecture and Construction
Career Pathway: Construction, Maintenance/Operations
Career Major(s): Structural Carpenter, Maintenance/Repair Carpenter, Form Carpenter

Pre-requisite(s):

Course Description: This course is an introduction to the properties, characteristics and uses of cement, aggregates, and other materials, types of concrete, estimating concrete volume, testing methods, and concrete reinforcement.

Textbooks/Materials: Lemley Campus: 
*Carpentry, Level 1 (2006 Edition)*, Contren Learning Series, Prentice Hall; Sand Springs Campus: 

Course Objectives: 
A. Demonstrate an Understanding of Concrete Characteristics.
   1. Identify various types of cement and describe their uses.  
   2. Identify types and sizes of concrete aggregates.  
   3. Identify types of concrete admixtures and describe their uses.  
   4. Identify special types of concrete and describe their uses.  
   5. Identify concrete curing methods and materials.

B. Demonstrate an Understanding of Testing Methods for Concrete.
   1. Identify concrete testing methods.  
   2. Demonstrate sampling methods used for the testing of concrete.  
   3. Perform slump testing of concrete.  
   4. Perform casting of specimens for strength testing of concrete.  
   5. Perform volume estimates for concrete quantity requirements.

C. Demonstrate an Understanding of Concrete Reinforcement.
   1. Identify types of concrete reinforcement bars and describe their uses.  
   2. Identify types of reinforcement bar supports and describe their uses.  
   3. Identify types of welded-wire fabric (WWF) reinforcement material and describe their uses.

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Teaching Methods: The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

Grading Procedures:
1. Students are graded on theory and shop practice and performance.
2. Each course must be passed with seventy (70%) percent or better.
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.

Description of Classroom, Laboratories, and Equipment:
Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.

Available Certifications/College Credit:
The student may be eligible to take state, national or industry exam after completion of the program. College credit may be issued from Oklahoma State University-Okmulgee or Tulsa Community College. See program counselor for additional information.

College Credit Eligibility:
The student must maintain a grade point average of 2.0 or better.