MASTERY UNITS & INSTALLATION TECHNIQUES I
Course Syllabus

Course Number: ARCO-0661
OHLAP Credit: No
OCAS Code: None
Course Length: 90 Hours
Career Cluster: Architecture & Construction
Career Pathway: Construction
Career Major(s): Masonry

Pre-requisite(s):
This course is an introduction to types of concrete and clay masonry units and their applications. This course covers the uses of ties and reinforcing materials, layout procedures, spreading mortar, cutting masonry units, laying to the line, corners, jointing, repair, and cleanup.

Textbooks:
- *Fundamentals of Bricklaying* by Curriculum and Instructional Materials Center, Oklahoma Department of Career Tech (1999)

Course Objectives:

A. **Understand Masonry Units and Installation Techniques.**
   1. Describe the most common types of masonry units.¹²
   2. Describe and demonstrate how to set up a wall.¹²
   3. Lay a dry bond.¹²
   4. Spread and furrow a bed joint, and butter masonry units.¹²
   5. Describe the different types of masonry bonds.¹²
   6. Cut brick and block accurately.¹²
   7. Lay masonry units in a true course.¹²

B. **Become Familiar with Concrete and Reinforcing Materials.**
   1. Identify various types of cement and describe their uses.²
   2. Identify types and sizes of concrete aggregates.²
   3. Identify types of concrete admixtures and describe their uses.²
   4. Identify special types of concrete and describe their uses.²
   5. Identify concrete curing methods and materials.²
   6. Identify concrete testing methods.²
   7. Demonstrate sampling methods used for the testing of concrete.²
   8. Perform slump testing of concrete.²
   9. Perform casting of specimens for strength testing of concrete.²
   11. Identify types of concrete reinforcement bars and describe their uses.²
   12. Identify types of reinforcement bar supports and describe their uses.²
   13. Identify types of welded-wire fabric (WWF) reinforcement material and describe their uses.²
C. Safety
   1. Describe how to use protective lenses and face shield. ²
   2. Describe how to use hearing protection. ²
   3. Describe how to use gloves. ²
   4. Describe how to use respirators. ²

¹ ODCTE objective
² NCCER objective

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.