COCONINO COMMUNITY COLLEGE
COURSE OUTLINE

Revised by: Ken Myers February 2, 2018
Status: Permanent
Effective Term: Fall 2018

A. Identification:
   1. Subject Area: Construction Technology Management (CTM)
   2. Course Number: 224
   3. Course Title: Concrete and Masonry Systems
   4. Credit Hours: 3
   5. Course Description: This course will provide instruction in structural and architectural applications of concrete and masonry systems. It will examine concrete and masonry characteristics, chemistry, mix designs, placement and finishing methods, and forming systems. Two lecture. Two lab.

B. Course Goals: Will introduce students to the use of concrete and masonry as building materials. First segment of the class will deal with concrete, the material. Second segment of class will deal with concrete auxiliary information. Last segment of class will introduce the principles of concrete form design and masonry construction. Once theory and quality control methods have been introduced, students will participate in the planning and execution of full-scale projects.

C. Course Outcomes:
   Upon successful completion of this course, students will be able to:
   1. select and interpret prescribed mixes of concrete for various applications;
   2. read and interpret lab tests used in quality control of concrete;
   3. outline finishing and curing methods for concrete surfaces and masonry applications;
   4. establish elevations and linear layouts for form systems;
   5. design footing, concrete and masonry stem wall, column, and deck form systems;
   6. identify suppliers and uses of various types of masonry and concrete form hardware and accessories.

D. Assessment of Course Outcomes will include: a variety of quizzes, tests, and hands-on demonstrations.

E. Course Content will include:
   1. concrete:
      a. history of use of concrete and masonry systems;
      b. materials characteristics:
         i. components;
         ii. chemistry;
         iii. mix designs;
         iv. ASTM relationships;
      c. testing;
      d. handling and placement.
   2. construction specifications;
   3. flatwork:
      a. forming;
      b. finishing;
      c. curing;
      d. repair;
      e. design;

    f. material selection;
    g. methods of construction;
    h. precast;
    i. architectural treatment;
4. forming systems reinforcing:
    a. ferrous methods;
    b. non-ferrous methods;
5. asphaltic concrete;
6. miscellaneous:
    a. demolition;
    b. underwater applications;
    c. adobe / rammed earth;
    d. alternative concrete and masonry systems.