

COCONINO COMMUNITY COLLEGE

COURSE OUTLINE

Prepared by: Joseph Costion MA
Revised by: Joe Costion MA
Status: Permanent

Date: 17 Sept '99
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A. Identification:

1. Subject Area: Construction Technology Management
2. Course Number: CTM 224
3. Course Title: Concrete & Concrete Form Systems
4. Credit Hrs: 3
5. Catalog Description:

This course will provide instruction in structural and architectural applications of concrete. It will examine concrete chemistry, mix designs, placement and finishing methods, and forming systems. Two lecture; two lab.

B. Course Goals:

ITC 224 will introduce students to the use of concrete as a building material. 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 form design. Once theory and quality control methods have been introduced students will participate in the planning and execution of full scale projects.

C. Course Outcomes:

Students will:

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.
4. Establish elevations and linear layouts for form systems.
5. Design footing, stem wall, column, and deck form systems.
6. Identify suppliers and uses of various types of form hardware and accessories.

D. Course Content:

Will include:

- A. Concrete
 1. History of Use
 2. Materials Characteristics
 - a. Components
 - b. Chemistry
 - c. Mix Designs
 - d. ASTM Relationships
 3. Testing
 4. Handling & Placement
- B. Construction Specifications
- C. Flatwork
 1. Forming
 2. Finishing
 3. Curing
 4. Repair
- D. Forming Systems
 1. Design
 2. Material Selection
 3. Methods of Construction
 4. Precast

- 5. Architectural Treatment
- E. Reinforcing
 - 1. Ferrous Methods
 - 2. Non-Ferrous Methods
- F. Asphaltic Concrete
- G. Miscellaneous
 - 1. Demolition
 - 2. Underwater applications
 - 3. Adobe / Rammed Earth