Class Syllabus

Class Information

Class Title: NCDOT Concrete Mix Design Certification
Location: Raleigh and Field Locations
Dates: Early Spring and Early Fall (classes may be added as needed)
Time: 8:30 AM - 5:00 PM

Instructor Contact Information

Lead Instructor: Benard Chola
Office Phone: 919 329-4122
Assistant Instructor: Chip Lichtenwalner
Office Phone: 919 329-4094
Email Address: Concretedesigns@ncdot.gov

Class Pre-Requisites

NCDOT Concrete Batch Certification

Class Description

This three day advanced school instructs an in-depth, step-by-step procedure to produce the following: ACI concrete mix designs, design variations, weight – volume relationships, aggregate gradation, NCDOT concrete mix design specifications, and the concrete mix design submittal and approval process. Additional subjects include: admixtures and their uses in concrete, use of Portland cement, use of fly ash in concrete, and placing and curing of concrete. Training is conducted entirely in a classroom setting where mathematical formulas and calculations are used extensively.

Class Registration Fee

The cost for this class is $150.00 per student.
Student Learning Objectives/Outcomes

- Understand the ACI absolute volume method of concrete mix design
- Know how to design concrete mixes using NCDOT Specifications and/or Provisions
- Be able to adjust mixes using 5% ACI Variation
- Understand concrete mix design submittal and approval process for NCDOT
- Know how to correctly complete NCDOT mix design forms
- Understand the NCDOT mix design numbering system

Required Textbooks and Materials

Concrete Mix Design Technician Study Guide (Provided for you)

Calculator (non-mobile device), Pen, Pencil, Highlighter, Notepad

Suggested Course Materials

Current NCDOT Standard Specifications for Roads and Structures
Concrete Batch Technician Study Guide
Concrete Field Technician Study Guide

Assignments & Tentative Class Schedule

Quizzes and homework will be given out during the first two days of class.

Monday      Sections I through VIII
Tuesday     Sections IX through XII
Wednesday  Review and Certification Exam

Grading Policy

The student must attend class and pass the written exam. The grade is either pass or fail and the minimum passing grade is 80%. The exam contains two parts; part 1 is a multiple choice and open book test for concept problems, and part 2 is a non-multiple choice and closed book test for calculation problems.

Class Policies

Class attendance is mandatory. An attendance roster will be passed out during the class. Students are expected to conduct themselves in a professional manner (Respectful of instructor and other students in class). No cell phones or other electronic devices are allowed during the examination.