Course Number

FHWA-NHI-135091

New Training WBT

Course Title

Basic Hydraulic Principles Review

Basic Hydraulic Principles Review is designed to familiarize participants with the background concepts, theories, and equations associated with basic hydraulic principles routinely used in highway engineering. NHI strongly suggests that participants complete this self-paced Web-based training (WBT) before attending any Instructor-led hydraulics courses. To fully understand the material presented in NHI hydraulics courses, participants must have an understanding of the basic hydraulic principles presented in this course.

In this course, "hydraulics" is considered to be the determination of various properties and characteristics of flowing water. Such determinations are essential for quantifying the nature of water flow under various conditions. This includes natural features such as streams and rivers, as well as man-made structures such as: bridges, drainage ditches, pipes, culverts, weirs, and spillways.

This WBT consists of three main lessons: Fundamental Concepts, Steady Uniform Flow, and Steady Non-Uniform Flow. After each lesson, knowledge check questions will be presented to test participants' understanding of the material presented in the lesson. The fundamental principles of hydraulics are used as a basis for designing new structures, as well as determining the flow capacity of existing structures. To access this training, enroll in NHI 135091 "Basic Hydraulic Principles Review" via the NHI Web site.

Outcomes

Upon completion of the course, participants will be able to:

- Define fundamental hydraulic concepts of open-channel flow
- Identify steady uniform flow conditions
- Describe the equations used for steady uniform flow
- Identify steady non-uniform flow conditions
- Describe the equations used for steady non-uniform flow

Target Audience

The primary target audience includes Federal and State Department of Transportation Hydraulic Engineering Units and consultants. The course is relevant to anyone involved in bridge designs over waterways, regardless of their technical discipline or whether they are in the private, municipal, sState or Federal sectors. This course is designed primarily for entry-level engineers or engineering technicians who deal with hydraulics. It is also beneficial for experienced personnel as a refresher course on hydraulic fundamentals.

Training Level: Basic

Fee: 2013: $0 Per Person; 2014: N/A

Length: 1 HOURS (CEU: 0 UNITS)

Class Size: MINIMUM: 0; MAXIMUM: 0

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