Course Number

FHWA-NHI-130101

WBT

Course Title

Introduction to Safety Inspection of In-Service Bridges - WEB-BASED

This training is a prerequisite of another NHI training and is offered at no cost.

Introduction to Safety Inspection of In-Service Bridges is designed to prepare participants with the necessary fundamentals required for a more intensive course in bridge inspection. This WBT introduces the elementary concepts of bridge inspection, bridge functions, and bridge inspection terminology. Participants who complete this WBT will be prepared for more intensive courses in bridge inspection, which focus on documentation, rating, assessment, and field inspection.

Introduction to Safety Inspection of In-Service Bridges covers bridge components and elements, bridge mechanics, design features, bridge materials, decks, superstructures, bearings, substructures, channels, inspection preparations, inspection reporting activities, and work area safety.

This course prepares participants for the 2-week, intensive Instructor-led course in bridge inspection, 130055 Safety Inspection of In-Service Bridges.

Upon successful completion of 130101, participants will have met the prerequisite requirement for participation in the 130055 course (for sessions beginning March 5, 2012 or later).* If participants would like to enroll in the 130055 course, they will be required to demonstrate their certificate of completion for 130101 as proof that the prerequisite requirement has been fulfilled.

Participation in 130101 is not the only option to fulfill the prerequisite requirement for 130055.* Individuals have the option to 1) successfully complete NHI-130054 Engineering Concepts for Bridge Inspectors (Instructor-led course) or 2) for those with engineering backgrounds or prior knowledge and experience in the field of bridge inspection may "test-out" through a Web-based assessment (130101A Introduction to Safety Inspection of In-Service Bridges).

*Please note: Upon successful completion of this prerequisite course, you will be eligible to take the 130055 training course for up to 2 years.

Outcomes

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

- Describe the basis for bridge inspection
- Identify the three major bridge components and various culvert types
- Identify the various elements that comprise bridge components
- Describe standard highway bridge loadings
- Describe the basic concepts of elasticity of materials, response of materials to an applied force, response of structural members to a variety of loadings, the relationship between stresses and strains, and load rating
- Describe span arrangements, deck-superstructure interaction, and redundancy
- Describe the basic properties, strengths and weaknesses of steel, concrete, and timber
- Describe the types, signs and causes of structural distress in steel, concrete, and timber
- Describe the general purpose of decks, superstructures, and bearings
- Describe the general purpose and function of substructure units
- Describe waterway features and the effect of scour
- Describe the requirements for preparing for an inspection
- Describe the basic bridge inspection reporting requirements
- Name protective measurements to mitigate the hazards involved when working in the field performing bridge inspection

Target Audience

This training has been developed for Federal, State, and local highway agency employees and consultants involved in inspecting bridges or in charge of a bridge inspection unit. A background in bridge engineering is strongly recommended.

Training Level: Basic

Fee: 2016: $0 Per Person; 2017: N/A

Length: 14 HOURS (CEU: 2 UNITS)

Class Size: MINIMUM: 0; MAXIMUM: 0

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