

**COURSE NUMBER**

FHWA-NHI-130054

**COURSE TITLE****Engineering Concepts for Bridge Inspectors**

This course was updated in 2010 and provides knowledge of the elementary concepts in bridge engineering for individuals involved with the inspection of in-service highway bridges. The course covers the purpose of highway bridge inspections and the roles of inspectors through the discussion of common bridge types and materials, material properties, and bridge components as well as details, loadings, stresses, strains, and deterioration of bridge materials and members. Participants will be asked to complete an exam at the end of the course, which they must earn a 70% or better on to successfully complete the course and receive a certificate of completion.

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 130054, participants will have met the prerequisite requirement for participation in the 130055 course.\* If participants would like to enroll in the 130055 course, they will be required to demonstrate their certificate of completion for 130054 as proof that the prerequisite requirement has been fulfilled.

Participation in 130054 is not the only option to fulfill the prerequisite requirement for 130055.\* Individuals have the option to 1) successfully complete the Web-based training and assessment (130101 Introduction to Safety of In-Service Bridges) 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
- Describe the various roles of the bridge inspection team
- Identify common bridge types and major components, primary members, secondary members and features of highway bridges
- Name the common materials used in bridges
- Describe the basic properties, strengths, and weaknesses of each material
- Describe basic engineering concepts
- Describe standard highway bridge loadings
- Describe the types, signs, and causes of structural distress
- Identify other features associated with bridges
- Name protective measures required to mitigate hazards

**TARGET AUDIENCE**

This course is designed for Federal, State, and local technicians and inspectors who have limited experience with the inspection of in-service highway bridges. Engineers without bridge experience or those who need a refresher in basic bridge design concepts will also benefit from the course. Individuals completing this course could serve on a bridge inspection team, but would require additional experience and training to qualify as team leaders.

**TRAINING LEVEL:** Basic

**FEE:** 2021: \$575 Per Person; 2022: N/A

**LENGTH:** 5 DAYS (CEU: 3 UNITS)

**CLASS SIZE:** MINIMUM: 20; MAXIMUM: 30

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