Course Number
FHWA-NHI-130092

Course Title
Fundamentals of LRFR and Applications of LRFR for Bridge Superstructures

This course provides novice and experienced bridge engineers with the fundamental knowledge necessary to apply the most recent AASHTO LRFR Specifications to bridge ratings. This course introduces participants to applications of LRFR specifications that can be used to enhance bridge safety and to identify and discuss the steps to ensure successful transition to this new state-of-the-art methodology.

Load Rating of Concrete and Steel Superstructure Bridges will provide participants with in-depth training in evaluating reinforced and prestressed concrete bridges and steel bridges using LRFR methodology. This course will illustrate the use of the current AASHTO evaluation specifications and state-of-the-art evaluation methods with step-by-step examples.

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

• Describe the purpose of performing a load rating
• Identify the benefits of the LRFR methodology
• Demonstrate the LRFR process and the general load rating equations
• Explain legal loads and their use in load rating
• Determine distribution factors for load rating
• State the LRFR limit states
• Select evaluation factors for rating
• Describe the process for load posting and importance of load posting
• Describe the procedure for checking overload permits
• Demonstrate the application of LRFR requirements by completing load rating exercises
• Identify material deteriorations that affect load capacity of bridge components
• Calculate the flexural resistances of a prestressed concrete girder for load rating
• Calculate the shear resistance of a prestressed concrete girder for load rating
• Apply the load rating procedures for concrete slab bridges
• Calculate the flexural and shear resistance of a steel I-girder bridge for load rating
• Evaluate fatigue for load rating a steel girder bridge
• Apply LRFR requirements by completing load rating exercises

Target Audience
Bridge engineers with 0-20 years of experience.

Training Level: Basic

Fee: 2019: $1350 Per Person; 2020: $1350 Per Person

Length: 4 DAYS (CEU: 2.4 UNITS)

Class Size: Minimum: 20; Maximum: 40

NHI Customer Service: (877) 558-6873 • nhicustomerservice@dot.gov