

**FHWA / NHI Course No. 130056****Safety Inspection of In-Service Bridges for Professional Engineers**

Hosted by:

Dates:

**Day 1**

8:00 AM

**MODULE 0: INTRODUCTION**

Lesson

- |      |     |                                   |
|------|-----|-----------------------------------|
| 0:10 |     | Registration                      |
| 0:50 | 0.1 | Introductions and Course Overview |

**MODULE 1: BASIC BRIDGE CONCEPTS AND MATERIALS**

- |      |     |                                  |
|------|-----|----------------------------------|
| 0:30 | 1.1 | Bridge Terminology and Mechanics |
| 0:10 |     | <i>Break</i>                     |
| 1:00 | 1.2 | Materials Properties Refresher   |

**MODULE 2: FUNDAMENTALS OF BRIDGE INSPECTION**

Lesson

- |      |     |   |
|------|-----|---|
| 0:30 | 2.1 | Safety Fundamentals for Bridge Inspectors |
| 0:30 | 2.2 | Inspection Equipment (Part 1)             |
| 1:00 |     | <i>Lunch</i>                              |
| 0:25 | 2.2 | Inspection Equipment (Part 2)             |

**MODULE 3: BRIDGE INSPECTION REPORTING**

Lesson

- |      |     |  |
|------|-----|--|
| 0:45 | 3.1 | Record Keeping and Documentation for Bridge Inspection |
| 0:50 | 3.2 | Structure Inventory and Appraisal (SI & A)             |
| 0:10 |     | <i>Break</i>   |
| 0:45 | 3.3 | Condition Based Reporting                              |
| 0:55 | 3.4 | Element Based Reporting                                |

**MODULE 4: INSPECTION AND EVALUATION OF BRIDGE DECKS**

- |      |     |   |
|------|-----|---|
| 0:30 | 4.1 | Design Characteristics and Inspection Methods of Decks (Part 1) |
|      |     | Adjourn   |

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**Day 2**

8:00 AM

0:15		Review of Day 1
	Lesson	
0:55	4.1	Design Characteristics and Inspection Methods of Decks (Part 2)
1:00	4.2	Deck Joints, Drainage Systems, Lighting and Signs
0:10		<i>Break</i>
0:40	4.3	Traffic Safety Features
0:40	4.4	Concrete Deck - Evaluation Exercise

**MODULE 5: DESIGN CHARACTERISTICS OF SUPERSTRUCTURES**

1:00		<i>Lunch</i>
1:30	5.1	Design Characteristics of common Superstructures
1:00	5.2	Inspection Methods and locations on Common Superstructures
0:10		<i>Break</i>
0:45	5.3	Steel Fracture Critical and Fatigue Concepts
0:55	5.4a	Multi-beam - Evaluation Exercise
		Adjourn

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**Day 3**

8:00 AM

0:15 Review of Day 2

0:40 5.4b Prestressed I-Beams - Evaluation Exercise

1:00 5.5 Bearings

0:10 *Break***MODULE 6: INSPECTION AND EVALUATION OF SUBSTRUCTURES**

1:00 6.1 Abutments, Piers and Bents

0:30 6.2 Substructures - Evaluation Exercise

1:00 *Lunch***MODULE 7: INSPECTION AND EVALUATION OF WATERWAYS**

1:00 7.1 Waterway Elements

0:35 7.2 Channel - Evaluation Exercise

0:10 *Break*

1:30 7.3 Underwater Inspection

0:10 *Break***MODULE 8: INSPECTION AND EVALUATION OF CULVERTS**

0:30 8.1 Culvert Characteristics

0:15 Conclusion and Brief Review of the Day's Lessons

Adjourn

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**Day 4**

8:00 AM

0:15 Review of Day 3

1:30 Lesson  
8.2 Inspection of Culverts

**MODULE 9: ADVANCED INSPECTION METHODS OF COMMON BRIDGE MATERIALS**

0:10 Break

1:00 9.1 Advanced Inspection Methods of Concrete, Steel and Timber

**MODULE 10: REVIEW**

0:30 10.1 Review: General Knowledge

1:00 Lunch

0:45 10.2 Review: Component Condition and Element Assessment

**MODULE 11: FIELD TRIP EXERCISE**

0:20 Lesson  
11.1a Field Inspection Example (optional)

0:55 11.1b Facilitation of Virtual Bridge Inspection (VBI)

0:10 Break

2:10 11.1 Bridge Inspection Field Trip (VBI)

Adjourn

Participants can stay longer to work on VBI if Training Facility available

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**Day 5**

8:00 AM

	Lesson
2:45	11.1 Bridge Inspection Field Trip (VBI) Continued
0:30	Bridge Inspection Field Trip (VBI) Reporting Out
1:00	<i>Lunch</i>
0:15	Proctor End-of-Course Assessment
0:55	End-of-Course Assessment - Part 1
0:40	End-of-Course Assessment - Part 2
0:40	End-of-Course Assessment - Part 3
0:30	Grade End-of-Course Assessments
0:30	Course close-out
	Adjourn