

Monday, May 19, 2025
(Workshop begins at 8:00a.m. and ends at 5:00 p.m.)

PART A: TIMBER BRIDGES

INTRODUCTION

- Terminology
- Materials
- Components
- Loadings

WOOD MECHANICS

- Properties of wood
- Behavior of wood
- Wood deterioration
- Species and grades
- Wood connectors

LOAD RATING

BRIDGE INSPECTION

METHODS

- Visual
- Non-destructive testing

BRIDGE INSPECTION

- Organization
- Records
- Frequency
- Deck/Timber
- Substructure
- Details

Tuesday, May 20, 2025
(Workshop begins at 8:00 a.m. and ends at 5:00 p.m.)

PART A: TIMBER BRIDGES (CON'T)

MAINTENANCE AND REHABILITATION

- Deck, Open/Ballast
- Walkways/Railings
- Stringers
- Caps
- Piles and Posts
- Substructure

PART B: STEEL BRIDGES

INTRODUCTION

- Terminology
- Materials
- Components
- Loadings

PROPERTIES OF STEEL

LOADS AND RATING

FATIGUE AND CORROSION

FASTENERS

BRIDGE COMPONENTS AND TYPES

- Decks
- Rolled Beam Bridges
- Deck Plate Girders
- Floor Systems
- Through Plate Girders
- Trusses

Wednesday, May 21, 2025
(Workshop begins at 8:00 a.m. and ends at 12:00 p.m.)

PART B: STEEL BRIDGES (CON'T)

BRIDGE INSPECTION

- Frequency
- Substructure
- Details

Piers & Abutments

MAINTENANCE & REHABILITATION

PART C: CONCRETE BRIDGES

INTRODUCTION

- Terminology
- Materials
- Components

CONCRETE DETERIORATION
BRIDGE COMPONENTS AND TYPES

- Reinforced Concrete Bridges
- Prestressed Concrete Bridges
- Abutments and Piers
- Masonry Arches

Railroad Bridge Inspection

May 19-21, 2025
Knoxville, TN

15 PDHs (Professional Development Hours) are available for those completing the course.

All attendees who successfully finish the course receive a certificate of completion.

The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services. All qualified applicants will receive equal consideration for employment and admission without regard to race, color, national origin, religion, sex, pregnancy, marital status, sexual orientation, gender identity, age, physical or mental disability, genetic information, veteran status, and parental status.

Call 865-974-5255
if you are interested in
hosting the course in your area or
email tmap@utk.edu

THE UNIVERSITY OF
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KNOXVILLE 

CENTER FOR
TRANSPORTATION RESEARCH

Objectives and Benefits

- Present and describe bridge terminology and functions of bridge components.
- Present bridge inspection procedures and a format for documentation of the inspection process.
- Acquire an understanding of the basic maintenance and rehabilitation practices.

Date & Location

May 19-21, 2025 (Knoxville, TN)

ORNL Hardin Valley Campus

(Formerly known as NTRC)

2nd floor meeting room

2360 Cherahala Blvd.

Knoxville, TN 37932

Tel: 865-946-1500 for directions

Who Should Attend?

Persons having bridge inspection and maintenance responsibilities at shortline, regional, and Class I railroads; railroad contractors and consultants; and state and local government officials associated with railroad operation, finance, and regulation will find this workshop beneficial.

Fee

The course registration of \$925 includes course materials and refreshments. Registration fees must be received at least two weeks prior to workshop to guarantee your place in the class. Attendees are responsible for meals and lodging.

Cancellation

If you cannot attend, two weeks notification before the workshop is required. You may enroll a substitute at any time before the course starts. There will be no refunds for no-shows.

Limited Enrollment

This workshop will be limited to 30 participants.

Instructors

Jennifer Retherford, P.E.

Dr. Jennifer Retherford, P.E., joined the University of Tennessee faculty in 2012 and has served as a teaching faculty, supporting structural engineering courses as well as the Senior Design Project course. Jenny's role as the senior design professor at UT allows a unique opportunity to interact with all undergraduate students and the surrounding professional community, a privilege which makes the course a practical experience for soon-to-be graduates. She serves as a Mentor and Demo Provider for the ASCE ExCEED Teaching Workshop every summer, sharing her passion with new faculty. She contributes to research related to engineering education specifically focused on project-based learning and pedagogy for new professors. She maintains her Tennessee Professional Engineers license and appreciates all opportunities to engage in our civil engineering professional community.

David B. Clarke, Ph.D., P.E.

Dr. Clarke, formerly Director of the University of Tennessee's Center for Transportation, brings nearly 40 years of experience encompassing a variety of railroad design, inspection, research and education activities. He has taught railway related courses including this one, to college students and professionals since 1990. Dr. Clarke is well versed in the Federal Track Safety Standards covered in this course, and is frequently engaged as an expert to assess track conditions. As a licensed civil engineer, Dr. Clarke prepares specifications and designs for railroad track construction and maintenance. He is active in railroad related committees of AREMA, ASCE and TRB.

Register online

Railroad Bridge Inspection

Knoxville, TN

May 19-21, 2025

REGISTRATION FEES: \$925

Online registration/payment with credit card:

<https://reg137.imperisoft.com/TTAP-UTK/Search/Registration.aspx>

Please call 865-974-5255 if you wish to pay by check.

RAIL TRAINING

Center for Transportation Research

The University of Tennessee

309 Conference Center Building

Knoxville, TN 37996-4133

Tel: 865-974-5255

Check out our website <https://ctr.utk.edu/training/> for other Railroad workshops like:

- * ***Railroad Track Inspection & Safety Standards***
- * ***Railroad Track Maintenance***
- * ***Railroad Track Design***