

# KNOXVILLE, TN

## RAILROAD TRACK DESIGN

The Railroad Track Design course addresses the design of railroad track, including horizontal and vertical alignment, cross sections, turnouts and crossings, component selection, earthwork, drainage, and clearances. The course highlights applicable AREMA recommendations and general industry practices, and explains how traffic characteristics and operational requirements affect design. Coverage distinguishes between high-speed, conventional, rapid transit, and light-rail systems, with examples that help students understand typical design procedures.

The workshop agenda includes an overview and introduction, followed by in-depth coverage of design controls, track location, and track engineering. Technical topics address loads, track behavior, stress analysis, and key track components such as rail, crossties and fasteners, ballast, and subgrade. The course also covers basic and advanced geometric design, including cross sections, horizontal and vertical alignment, curves, spirals, superelevation, grades, and vertical curves. Additional agenda topics include turnouts and track crossings, track junctions, yard and terminal layout, capacity and operational considerations, rail-highway grade crossings, railway structures, drainage.

This course is intended for personnel responsible for construction, track design, or maintenance at shortline, regional, and Class I railroads, as well as railroad contractors, consultants, and state and local government officials associated with railroad operation, finance, and regulation. The course includes engineering content, and basic math skills are needed.

### PDHs AVAILABLE

15 PDHs (Professional Development Hours) are available for those completing the course. All attendees who successfully finish the course receive a certificate of completion.

### REGISTRATION

The course fee includes printed course materials, beverages, and snacks. Enrollment for this workshop is limited to 30 participants. Please register early to ensure your participation. Full payment of registration fees must be received at least two weeks prior to the workshop. Attendees are responsible for all meals and lodging.

### EXPERT INSTRUCTOR

Dr. David Clarke, Ph.D., P.E., Director Emeritus of the UT Center for Transportation Research, brings nearly 40 years of experience encompassing a variety of railroad design, inspection, research and education activities. As a licensed civil engineer, Dr. Clarke prepares specifications and designs for railroad track construction and maintenance.

### DATES/PLACE

**May 13-15, 2026** (2.5 days)  
**UT Conference Center Bldg**  
Room 323  
600 Henley Street  
Knoxville, TN 37996

### COURSE FEE

**\$875**

per attendee

This 2.5 day workshop would benefit personnel involved in railroad construction, track design, or maintenance

Please call 865-974-5255 for more information or if you are interested in hosting a class in your area.

### REGISTER NOW

[ttap.utk.edu/course-calendar](http://ttap.utk.edu/course-calendar)  
865-974-5255  
TTAP@utk.edu

