



Track Infrastructure Fundamentals for Railway Professionals

31 October - 4 November 2022

Monash Institute of Railway Technology
Monash University

*Presenters are specialist from
Monash Institute of Railway Technology and the Australian Rail Industry*

*This is a wonderful opportunity to gain an illuminating insight into the
concepts, technology, processes and standards that are essential for railway professionals*

Day One	Overview of the track infrastructure and operational principles
Day Two	Principles for track alignment, fundamentals of track loading and stability
Day Three	Principles of track infrastructure design and material selection
Day Four	Processes of infrastructure management, monitoring and maintenance
Day Five	Importance of special track components, clearances and risk management

The aim of this five-day course is to:

- Provide background information and important concepts relating to track infrastructure to professionals in the railway industry or planning to join the railway industry
- Provide a consistent understanding of infrastructure as well as safety and design within industry context
- Explore the impacts of infrastructure quality and maintenance strategy together with associated risks, needs and benefits

The format of the course will be face to face training supported by activities, and consolidation tasks and flexible to allow participants to raise questions regarding the above topics or other track infrastructure issues.

Venue: Monash University – Clayton Campus, Victoria 3800, Australia

Date: Monday 31 October to Friday 4 November 2022

Time: 9.00am – 5.00pm (Registration from 8.30am)

Cost: AUD\$ 3,500 + GST

Morning/afternoon tea, lunch and refreshments will be provided

This is an exclusive event with limited seats up to a maximum of 30 participants.
Early registration is essential to avoid disappointment.

Please feel free to notify others who may be interested in this course.

Registration by Friday 14 October 2022

For any additional information and registration call

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Please advise if you have any dietary or access requirements.

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**Monash Institute of
Railway Technology**



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Course Structure

Day 1: Overview of the track infrastructure and operational principles

- Establish an overview of railway track infrastructure
- Identify key elements of track components for ballasted and non-ballasted track and understand their functions
- The application of Codes of Practice and Standards for track components and management
- Apply knowledge of track features and components to different scenarios/environments/contexts

Day 2: Principles for track alignment, fundamentals of track loading and stability

- Understanding the basic factors for track alignment design
- Applying principles for track alignment design
- Understand the importance of wheel-rail interaction and vehicle loading on track
- Transmission of vehicle loading through the track structure and major component stresses
- Understand what is involved in managing track stability

Day 3: Principles of track infrastructure design and material selection

- Introduction of rail materials
- Understanding of the methods to join rails
- Understanding the context of the interfaces between track components
- Understanding of track substructure behaviour during railway operation and material selection

Day 4: Processes of infrastructure management, monitoring and maintenance

- Understanding track infrastructure management
- Understand the different types of rail/track defects and their characteristics
- Appreciate the impact and severity of different defect types
- Understand the importance of track inspection and condition monitoring
- Techniques for track maintenance and track construction

Day 5: Importance of special track components, clearances and risk management

- Overview of use and importance of special track components
- Determination of track clearances
- Track interactions with signaling and electric traction systems
- Introduction to risk management

Course Attendance Certificate will be issued

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