

Railway Rollingstock *Fundamentals for Railway Professionals*

15 August - 30 September 2022

Monash Institute of Railway Technology
Monash University

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

*Learn about the concepts, technologies, processes and standards used in
rollingstock that are essential for railway professionals*

The learning outcomes of this seven-week online course are:

- Understanding the key issues and concepts relating to rollingstock design, maintenance and operations.
- Knowledge of rollingstock technologies including structural, mechanical, electrical and communications and how each interacts within the rail system.
- Exposure to problem solving methodologies that include real world examples of how rollingstock aspects and interfaces function.

Our online courses offer the ultimate in flexibility, and are accessible anywhere as long as you have an internet connection. This online content is supported with interactive activities and a weekly scheduled meeting environment, to enable group discussion of weekly topics between experienced industry professional course facilitators and students.

Who should attend

- Engineers and other professionals with some rolling stock experience seeking to broaden their knowledge of rollingstock design, maintenance and operation concepts.
- Those in other areas of the railway industry wanting to understand the interaction between rollingstock and the rest of the rail system.
- People wishing to enter the rail industry.

Venue: Online

Date: Monday 15 August to Friday 30 September 2022

Cost: AUD\$ 2,000 + GST

This is an exclusive course with limited seats.

Early registration is essential to avoid disappointment.

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

Registration by Friday 5 August 2022

For any additional information and registration call

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Endorsed by:



RTSA



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Course Program

Week 1: Introduction to Rail, Freight Vehicle Design and Braking

- Review of the railways of Australia and key rollingstock and component types
- Understand the commonly used design characteristics for freight vehicles
- Identify different train braking systems and calculate stopping distances

Week 2: Electrical

- Application of electrical theory for rollingstock specific applications
- Identify the various power supply systems used in rail
- Introduction to electric traction systems

Week 3: Diesel Control Systems

- Introduction to Diesel rollingstock stock
- Calculate traction requirements for operating a train
- Identify key elements of traction and differences between AC and DC traction

Week 4: Bogies and Standards

- Understand the importance of the wheel/rail interface
- Review vehicle bogie types and their application
- Interpret commonly used standards and how they relate to design

Week 5: Passenger Car Design and Safety

- Understand the design characteristics for passenger and railcars
- Understanding of rail safety, ALARP & SFAIRP, ATP and RAMS
- Discussion of the future of rail and rollingstock

Week 6: Loco Design

- Evaluate locomotive selection based on network and train requirements
- Understand the commonly used design characteristics for locomotives
- Differentiate between sound and noise and how it applies to rail vehicles
- Crew, public address, and information systems and environmental interfaces

Week 7: Asset Management

- Asset Management and Reliability Centered Maintenance principles
- Review maintenance methods used on diesel and electric rollingstock
- Rollingstock & equipment interface with railway signaling & electrical supply

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A Course Attendance Certificate will be issued