



ARA Learning Guide 2026

By industry, for industry



**Australasian
Railway
Association**





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A note from the CEO

ARA courses: Empowering your rail industry education journey

I am delighted to introduce the Australasian Railway Association's (ARA) Course Guide 2026, offering a range of learning opportunities tailored for today's rail professionals and those aspiring to join this exciting industry.

Our flagship course, the ARA Professional Certificate in Rail, has truly come into its own as a benchmark for industry-led education. Designed by industry, for industry, it offers a comprehensive foundation in Australia's rail industry, both as it stands today and where it is headed tomorrow.

Feedback from graduates has been overwhelmingly positive. They have valued not only the depth of knowledge gained, but also the enriching experiences — from industry site visits to engaging webinars. The Certificate is now widely recognised across the industry as a powerful launchpad for lifelong learning in rail.

Every ARA course is thoughtfully crafted to empower learners with future-focused insights and practical knowledge. Whether you are advancing your career or just beginning your journey in rail, our offerings are designed to support and elevate you.

This guide reflects our commitment to an industry-informed approach to education — one that opens doors, sparks curiosity, and builds capability across the rail workforce.

So, take the next step. Explore our courses, unlock your potential, and let ARA Learning be your trusted partner in success. Your journey starts here, and we cannot wait to see where it takes you.

Warm regards,

Caroline Wilkie

CEO, Australasian Railway Association

Why choose ARA courses

ARA courses meet the specific needs of the rail industry. Our courses are developed with direct input from rail professionals, combining essential theory with real-world insights to create engaging, industry-ready learning experiences.

Built by industry, for industry



The rail industry faces a significant challenge: a large number of experienced professionals are approaching retirement. This “retirement cliff” means the sector must actively transfer critical skills and knowledge to the next generation.

The ARA addresses this challenge by:

Capturing industry expertise – Our courses are shaped by leading rail professionals.

Sharing diverse perspectives – Learners gain a well-rounded view of the sector, not just theory.

Building capability for the future – We equip people at all levels with the tools they need to succeed.

Industry recognition - All ARA courses and the ARA Professional Certificate in Rail are recognised with a Certificate of Completion as well as a Credly Badge for your LinkedIn account so you can showcase your expertise and dedication to excellence in the rail industry.

Learning options for every stage



Our courses are designed to support rail professionals at all points in their career journey:

ARA Understanding Rail Course

A concise, practical introduction for those new to the industry. Learners gain a clear understanding of key rail concepts and terminology to help them navigate their roles with confidence.

Specialised technical courses

Options covering rollingstock, signalling, rail operations, and rail infrastructure provide a deeper dive into the systems and processes that keep the network running.

ARA Professional Certificate in Rail

For those seeking a comprehensive induction, this course combines all ARA courses into one structured pathway. It is ideal for ambitious professionals who want to accelerate their learning and gain a strong foundation across the entire rail industry.

Benefits for organisations



For rail organisations investing in workforce development, the ARA provides:

Consistent, industry-aligned training that supports organisational goals.

A strong knowledge base for employees to build a successful career in rail.

A scalable way to onboard new staff and upskill teams across different functions.

2026 ARA courses calendar

Each ARA course is offered in two cohorts in 2026 to foster a collaborative learning environment.



9 February – 26 June
ARA Professional Certificate in Rail

6 July – 20 November
ARA Professional Certificate in Rail

9 February – 6 March
ARA Understanding Rail Course

6 July – 31 July
ARA Understanding Rail Course

9 March – 3 April
ARA Rollingstock Course

3 August – 28 August
ARA Rollingstock Course

6 April – 1 May
ARA Rail Infrastructure Course

31 August – 25 September
ARA Rail Infrastructure Course

4 May – 29 May
ARA Rail Signalling Course

28 September – 23 October
ARA Rail Signalling Course

1 June – 26 June
ARA Rail Operations Course

26 October – 20 November
ARA Rail Operations Course

Customised training solutions

Incorporate ARA Learning into your induction, graduate, recruitment, and professional development programs.

We can support the delivery of ARA courses to dedicated learning groups for your organisation. Your team can benefit from a collaborative learning environment, and an efficient and cohesive learning experience.

Contact us to discuss a customised learning package to meet your business requirements.

Email our team at workforcedevelopment@ara.net.au





ARA Learning Courses

Industry-endorsed courses

The ARA Professional Certificate in Rail

An immersive learning experience that provides comprehensive knowledge, valuable insights and career-enhancing recognition. Stay at the forefront of the rail industry.

The ARA Professional Certificate in Rail provides rail professionals with the crucial, cutting-edge industry knowledge and understanding required to excel in today's dynamic rail environment. The certificate is awarded to participants of this 20-week online, industry-designed and endorsed training course.

Whether you are involved in design, construction, operations, or maintenance, the ARA Professional Certificate in Rail offers insights that align with industry best practices, helping to future-proof rail careers.

The ARA Professional Certificate in Rail combines the ARA's five individual courses, with a live webinar with industry experts and an optional site visit. Participants can start in any available cohort throughout the year, with all learning delivered online through the ARA Learning platform.

This certificate provides the tools to succeed in today's rapidly evolving rail environment and explores topics such as:

- Rail freight and passenger operations
- Infrastructure and maintenance
- Rail safety
- Digitisation and automation
- Sustainability and supply chain
- Asset lifecycle management

Why choose the ARA Professional Certificate in Rail?

The ARA Professional Certificate in Rail enhances understanding of all key rail sectors, enabling professionals at every level to drive their career success.



Comprehensive industry knowledge

Learn how different aspects of the rail industry interact and apply that knowledge to your role.



Boost your confidence

Acquire the terminology, concepts and insights needed to communicate more effectively with clients and colleagues.



Real-world applications

Through case studies, interactive quizzes and practical examples, you can apply new knowledge from day one.



Recommended for all levels

The certificate suits professionals who are new to the rail industry and those seeking to enhance their knowledge.



Industry recognition

Earn a Professional Certificate in Rail to showcase your expertise and dedication to excellence in the rail industry.



Flexible format

Modules are divided into lessons, and can be paused at any point, allowing you to participate according to your own schedule.

What you will learn

The ARA Professional Certificate in Rail combines the ARA's five industry leading courses with a live webinar and an optional site visit to create the first Australasian rail industry-designed and endorsed professional certificate.

The Professional Certificate in Rail provides a comprehensive and interconnected learning experience, covering the technical, operational and safety aspects of rail systems through in-depth courses on topics such as rail operations, signalling, rollingstock and infrastructure.

It provides a thorough perspective on the rail industry, addressing both its technical and operational challenges while highlighting such issues as safety, sustainability and innovation.

Each course is designed to be completed in four weeks, with a total of around 20 weeks needed to finish the Professional Certificate in Rail. Learners can also choose to accelerate their studies to suit their learning style and schedule.



Courses included in the ARA Professional Certificate in Rail

ARA Understanding Rail Course: This course provides a foundational understanding of the role of rail in communities, focusing on the economic and social benefits it brings. Learners gain knowledge of passenger, freight and heavy haul operations and the importance of safety and sustainability.

ARA Rollingstock Course: This course focuses on train design, procurement and propulsion systems, covering traditional diesel, electric, battery/electric and hydrogen options. Learners explore how train design interacts with terrain, and the increasing integration of systems that manage train operations above and below the rail.

ARA Rail Infrastructure Course: This course offers an overview of rail infrastructure, focusing on the components that ensure the safe, efficient and reliable operation of rail systems. Participants will explore the fundamentals of electrical, track and civil, and geotechnical considerations integral to the design, construction and maintenance of modern railways.

ARA Rail Signalling Course: This course covers the core principles of rail signalling systems and their importance in ensuring safety. It covers the terminology, system integration and evolution of signalling, including modern and future technologies like digital signalling and Future Railway Mobile Communication Systems.

ARA Rail Operations Course: This course showcases the complexities of delivering safe and customer-focused services across the passenger, freight and heavy haul sectors. The course covers key operational functions such as train timetabling, rollingstock maintenance, communications and how digitisation and decarbonisation impact these functions.

Cost

- ARA member - \$4,400 incl GST
- Non-members - \$6,600 incl GST
- Discounts are available for group bookings and past course participants. Contact us to confirm eligibility.



How to enrol

Use the QR code to enrol or for more information, email events@ara.net.au.

Who should complete this course?

The Professional Certificate in Rail is perfect for professionals across the rail industry – whether you are new to the field or a seasoned manager, engineer, or HR leader.

ARA Understanding Rail Course

If you are venturing into the world of rail for the first time, have recently changed roles or are wanting to understand more about other areas of the industry, our Understanding Rail Course is for you.

Ideal for new industry entrants and those seeking a comprehensive industry overview, set your own pace with this online course that offers comprehensive insights into all sectors of the rail industry.

Learning outcomes

- Gain insight into the role rail plays in communities and the benefits rail brings.
- Understand industry terminology and the components of passenger, heavy haul and freight railway operations and maintenance.
- Learn about the importance of safety in the operation of a railway as well as the critical focus on sustainability in all aspects of the industry.
- Understand what trains deliver, the different kinds of services and the business models behind the services they deliver.
- Dive into the supply chain and understand the scale and offerings that support the delivery of safe and reliable rail services.
- Experience insights about the people that make up the rail industry.

Who should complete this course?

Whether you are new to the rail industry, have recently started a new role, or simply want to brush up on your industry knowledge, our Understanding Rail course is for you.

Course modules

- 1 Rail industry overview
- 2 Infrastructure and safety
- 3 Rollingstock and operations
- 4 Supply chain
- 5 Sustainability

Cost

ARA members	Non-members
\$990 incl GST	\$1,320 incl GST

How to enrol

Use the QR code to enrol or for more information, email events@ara.net.au.



“

Feedback on the ARA Understanding Rail Course

“I have stepped back into the rail industry and it is so exciting to see the changes that are happening in the rail industry and the move towards harmonisation! Thank you for all of the information, and all of the effort, time and persistence it has taken to put together a great course. Thank you.”

ARA Rollingstock Course

This four-week ARA Rollingstock Course offers a comprehensive overview of rollingstock in the rail industry.

This interactive course covers various aspects, from understanding train design to exploring propulsion methods such as diesel, electric, battery/electric and hydrogen.

Learning outcomes
<ul style="list-style-type: none">• Deep dive into Australian and New Zealand railways and the types of trains that can run on various infrastructure. This includes track machines and maintenance vehicles.
<ul style="list-style-type: none">• Gain insights into rail networks around the country and the rollingstock that is typical to the various rail corridors.
<ul style="list-style-type: none">• Learners will be able to match rollingstock to the relevant rail ecosystem, including the signalling systems and typography of those ecosystems.
<ul style="list-style-type: none">• Understand some of the key differences between passenger, freight, and heavy haul trains, with a focus on train dynamics, wheel rail interfaces and propulsion systems.
<ul style="list-style-type: none">• Acquire knowledge on the key principles that underpin how trains are kept apart and what role safety plays in the management of trains.
<ul style="list-style-type: none">• Explore decarbonisation journeys in the design, manufacture and operation of new rollingstock.

Course modules
1 What is rollingstock?
2 Asset management systems
3 Propulsion – what makes rollingstock move?
4 Rollingstock and the signalling system
5 A day in the life of rollingstock
6 Global future of rollingstock
7 Design your own train

Who should complete this course?

Whether you are new to the rail industry, have recently joined as a graduate, are immersed in rollingstock projects, or an individual contemplating a career shift, this course presents an exceptional opportunity for professional development.

The course can also be of enormous value to people who interact with rollingstock projects. Whatever your touchpoint with rollingstock, the ARA Rollingstock Course will be of immense benefit.

Cost	
ARA members	Non-members
\$1,320 incl GST	\$1,760 incl GST

How to enrol

Use the QR code to enrol or for more information, email events@ara.net.au.



Feedback on the ARA Rollingstock Course

"The course provided a solid and engaging introduction to rollingstock fundamentals. It was informative, well-structured, and covered key concepts clearly. The content struck a good balance between technical depth and accessibility - I found it both interesting and enjoyable to follow."

ARA Rail Infrastructure Course

This four-week course offers a comprehensive overview of rail infrastructure, focusing on key components such as track design, electrical engineering, and civil engineering, as well as their interdependencies and contributions to efficient transportation.

Learners will explore the fundamentals of electrical engineering, civil engineering, as well as track systems through the lens of a fictional event. This immersive experience enables learners to evaluate and document findings that are essential for the design, construction and maintenance of modern railways.

Learning outcomes

- Understand the basic principles of railway electrical components, recognise and describe the main electrical components in rail systems, including overhead wiring, substations and power supply systems. Learn how electrical systems interact with other components of rail infrastructure, including tracks and signalling.
- Explore geotechnical, track and civil infrastructure, focusing on the substructure and earthworks related to track systems. Learn about the essential components of track structures, factors affecting load-bearing capacity, track geometry, elements that impact track integrity, and maintenance and repair.
- Identify and describe the civil engineering aspects of rail infrastructure, such as track design, construction and maintenance.
- Explore a simulated scenario to assess the challenges and solutions in modern rail infrastructure projects.
- Through simulation communicate effectively with professionals in the field, utilising appropriate technical language and concepts.
- Apply infrastructure project planning and analysis skills in a simulated environment.

Course modules

- 1 Understanding infrastructure – overview of electrical, track and civil assets
- 2 Track and civil infrastructure
- 3 Electrical infrastructure
- 4 Rebuilding the network

Cost

ARA members	Non-members
\$1,320 incl GST	\$1,760 incl GST

Who should complete this course?

Whether you are new to the rail industry, have recently joined as a graduate, are immersed in infrastructure projects, or an individual contemplating a career shift, this course presents an exceptional opportunity for professional development.

The course can also be of enormous value to people who interact with infrastructure projects. Whatever your touchpoint with infrastructure, the ARA Infrastructure Course will be of immense benefit.

How to enrol

Use the QR code to enrol or for more information, email events@ara.net.au.



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Feedback on the ARA Rail Infrastructure Course

“Using a case study to help apply the knowledge and course content was a great way to help absorb the information given through real world application. Also, the use of visuals in the case study was very helpful in picturing how it would look in the real world.”

ARA Rail Operations Course

Embark on a transformative journey with our ARA Rail Operations Course. This four-week course is your gateway to a comprehensive understanding of passenger, freight and heavy haul rail operations.

Learning outcomes

- Gain insight into the many interdependent functions that result in the delivery of safe and customer-focused rail services.
- Hear from industry experts about the challenges and complexities of operating passenger, freight and heavy haul services.
- Learn about key roles in the functional areas of train timetabling, rollingstock maintenance, safe working, communications and the impact of digitisation and decarbonisation.
- Understand how safety legislation, principles and culture are central to the operation of railways.
- Explore the varying operational business models that are found across the rail industry (both in the public and private sectors) and learn about the way these organisations interface.
- Get to know the people that keep our railways operational.

Who should complete this course?

If you are seeking to understand the wide range of operations functions in a rail organisation, including how they underpin every aspect of rail service delivery, this course is for you.

It is particularly suited to current operations personnel aiming to deepen their knowledge in areas beyond their direct involvement, and individuals interested in understanding customer expectations when traveling by train or shipping freight.

“

Feedback on the ARA Rail Operations Course

“Even as an experienced rail industry worker I learned new and informative facts about the industry; also gained a great opportunity to solidify existing knowledge and experience - I also gained a wider view of the industry and the operations of railways. I also thought the opportunity to design your own railway and rollingstock etc exercises were great fun.”

Course modules

- 1 Rail operations and systems integration
- 2 Workforce and future trends
- 3 Rail legislation and regulation
- 4 The customer at the centre of rail
- 5 The railway, the safe way
- 6 Safety in action - when things go wrong
- 7 Rollingstock asset management
- 8 Rail logistics - schedules and timetables
- 9 Rail organisations - business models
- 10 Network operations

Cost

ARA members	Non-members
\$1,320 incl GST	\$1,760 incl GST

How to enrol

Use the QR code to enrol or for more information, email events@ara.net.au.



ARA Rail Signalling Course

Discover the world of rail signalling with renowned Signalling Engineer Jane Copperthwaite FIEAust, CPEng, RPEQ in our four-week ARA Rail Signalling Course.

Rail signalling is the backbone of a safe, reliable and robust railway system, making it imperative to grasp its fundamentals. This course offers a comprehensive overview of the essential principles governing railway signalling systems and operations.

Learners will have the opportunity to gain unparalleled insights and knowledge about mechanical, electrical and digital signalling across Australia and New Zealand.

This course also provides an excellent insight into the principles and language of rail signalling.

Learning outcomes

- Explore the critical role of signalling systems in ensuring a safe working environment.
- Learn how to adopt essential signalling terminology and seamlessly apply it in your daily work.
- Gain insights into the importance of systems integration, bridging lineside and digital signalling systems within a unified network.
- Stay abreast of the evolution of signalling, including future trends and modern signalling systems that shape the rail industry.
- Master the principles of digital signalling design for enhanced efficiency and effectiveness.
- Learn about future railway mobile communication systems (FRMCS) and its pivotal role in rail safety-related communications, enabling the integration of new signalling systems.
- Acquire the skill to read and interpret signalling plans effectively.
- Understand the maintenance aspects of the signalling system, ensuring optimal performance.

Who should complete this course?

Whether you are new to the rail industry, have recently joined as a graduate, are an engineer immersed in signalling projects or an individual contemplating a career shift, this course presents an exceptional opportunity for professional development.

The course can also be of enormous value to people in areas such as finance who are working with signalling projects, or systems engineers who are looking at the intersections of systems across the rail operation more generally. Whatever your touchpoint with signalling, the ARA Rail Signalling course will be of immense benefit.

Course modules

- 1 What is railway signalling and why do we need it?
- 2 Signalling system as part of a safeworking system
- 3 Design and integration of signalling systems
- 4 Whole of life management of signalling systems
- 5 Transition to future systems

Cost

ARA members	Non-members
\$1,760 incl GST	\$2,200 incl GST

How to enrol

Use the QR code to enrol or for more information, email events@ara.net.au.



Course facilitator

Jane Copperthwaite FIEAust, CPEng, RPEQ | Director, Anutha

Jane is a highly accomplished leader with a strong focus on rail signalling. She has experience working in both the public and private sectors in the UK and Australia. Jane has joined Anutha as the Director. In her previous roles, Jane and her team were working to ensure Cross River Rail's rail technology system integrates into Queensland Rail's operations.

Jane has an Honours Degree in Control Engineering, is a Chartered Professional Engineer, RPEQ, member of the Institution of Railway Signal Engineers and a Fellow of the Institution of Engineers Australia.





“

Feedback on the ARA Rail Signalling Course

“The content was outlined well, particularly signalling principles integration into safe working systems. The coverage of modern digital signalling systems, along with future trends like FRMCS, was particularly valuable in understanding where the industry is heading. One of the most beneficial aspects was understanding the maintenance aspects of the system. Overall, the course is an excellent resource for anyone looking to build foundational knowledge in rail signalling.”



ARA Microcredentials

Microcredentials and microbites

Respect in Rail Course

The ARA has developed the Respect in Rail Course to deepen understanding of the importance of fostering respect in the rail industry. Many rail organisations have provided Respect at Work training over the last 24 months. This is a crucial area to have refresher training, and for some, initial training into the critical behaviours that underpin respectful workplaces. The ARA, in developing Respect in Rail, is promoting safety, inclusivity and diversity, ultimately making the industry a preferred choice.

This course features real-world rail scenarios to help learners recognise and respond to disrespectful behaviour. It also provides effective strategies to empower learners to confidently address situations where they witness or experience such behaviour. This course supports our shared goal of creating a safe and respectful rail industry for everyone

Learning outcomes

- Define and recognise disrespectful behaviours: Understand and differentiate between harassment, discrimination and bullying in the workplace.
- Reflect on personal impact: Engage in self-reflection to identify past behaviours that may contribute to a negative work environment.
- Assess consequences: Understand the effects of disrespectful behaviour on individual wellbeing and overall organisational culture.
- Foster safety and inclusion: Discover strategies to create a culture of respect, safety, and inclusivity within the workplace.
- Promote leadership and accountability: Learn to exhibit strong leadership and take personal responsibility in preventing disrespectful conduct and enhancing collaboration.

Course modules

- 1 Introduction to Respect in Rail
- 2 Respect in Rail in action
- 3 Impacts if we don't have respect in rail
- 4 How to foster a culture of safety and inclusion

Cost

ARA members Free

Who should complete this course?

Designed to increase awareness of the importance of cultivating a safe, inclusive and diverse work environment. This course is suitable for rail employees at all levels.

How to enrol

Use the QR code to enrol or for more information, email events@ara.net.au.



Rail Software Safety as a Client Course

Ensure the safety and reliability of rail projects by enrolling in the Railway Software Safety as a Client Course.

Delivered by Libusa Academy, this course provides essential knowledge in software safety assurance, focusing on the effective procurement and oversight of safety-critical, software-driven assets in the rail industry.

The course is structured into seven comprehensive modules, each delving into critical aspects of software safety in the Australian rail context. Participants benefit from the expertise of industry professionals and will acquire skills directly applicable to their role.

Learning outcomes

- Managing software safety: Acquire strategies to oversee software safety throughout project delivery, authorisation, operation and maintenance phases.
- Integrating assurance regimes: Learn how to embed targeted assurance practices within an accreditation strategy and safety management system.
- Understanding standards and legislation: Gain insight into international rail standards and Australian law to ensure compliance.
- Preventing software failures: Understand common causes of software failures and learn how to implement preventive measures.

Who should complete this course?

This course is not just for IT experts; it equips anyone managing or procuring safety critical, software-driven rail assets with the knowledge needed to meet global safety standards. Perfect for those working on projects involving asset upgrades or new installations, the course supports compliance with the EN50128 standard and Australian safety laws, providing vital skills to oversee software safety assurance in the rail industry.

Course modules

- 1 How does software fail and why is this a growing concern?
- 2 How to ensure that software does not fail
- 3 Software standards in the rail industry
- 4 Roles and responsibilities in Australian rail law
- 5 SIL through the asset lifecycle
- 6 Emerging good practice in the client role
- 7 Recap of fundamental lessons

Cost

ARA members	Non-members
\$1,430 incl GST	\$1,760 incl GST

How to enrol

Use the QR code to enrol or for more information, email events@ara.net.au.





Rail University Courses

Higher education rail courses

Deakin University - Railway Engineering: Design Microcredential



Through this six-week microcredential from Deakin University, you will master relevant national standards and industry guidelines, while also developing skills and strategies for sustainable railway infrastructure design.

The focus of this microcredential is on equipping you with practical engineering skills and expertise for railway design that can be used in any field. You will learn how to use engineering software, communicate information effectively, adopt the right methods and procedures and solve complex problems for efficient and sustainable design through design thinking.

These skills and expertise will help you access in-demand civil engineering positions in Australia and beyond.

Learning outcomes



Select and apply relevant standards and industry guidelines to develop systematic approaches for designing railway infrastructure systems in a variety of scenarios.



Analyse complex problems for efficient and sustainable design of railway infrastructure projects by applying fundamental principles.



Utilise appropriate methods and processes for railway design projects and operational systems.



Manage and communicate information effectively in a professional manner.

Who should complete this course?

There are no formal requirements for this microcredential, although you should have some background in engineering and an interest in railway design.

Upon completion

Upon successful completion of the written assessment, you will be awarded 0.5 Postgraduate Level Credits from Deakin University, and a Credly digital badge. You can either earn a stand-alone credential or build up your credits by completing more stackable microcredentials offered by Deakin University and work towards a full postgraduate degree.

How to enrol

Use the QR code to enrol.



Key modules





- 1 Introduction to railway systems**
 - Railway track geometric design
 - Railway design tool – Autodesk CIVIL 3D
- 2 Horizontal and vertical alignment design**
 - Design of horizontal alignment elements
 - Design of vertical alignment elements
- 3 Cross-sections and other elements**
 - Railway track cross-section and clearance
 - Design of railway surface drainage systems
 - Other geometric elements of railway track
- 4 Track structure design and track loadings**
 - Railway track structural elements and design process
 - Vertical loads acting on tracks: types, specifications, and calculations
 - Lateral loads acting on tracks: a cause of derailments and track lateral resistance
- 5 Track superstructure and substructure**
 - Design of superstructure elements: rail and sleepers
 - Design of substructure elements: ballast and sub-ballast

Deakin University - Railway Engineering: Planning and Maintenance Microcredential



Through this six-week microcredential delivered by Deakin University, you will gain a solid introduction to the rail industry. You will become armed with essential knowledge and skills to undertake planning and maintenance according to Australian national standards and guidelines.

This microcredential provides an exceptional opportunity to upskill and unlock different career opportunities in the thriving Australian railway industry.

Learning outcomes	
 <p>Select and apply relevant standards and industry guidelines to develop systematic approaches for planning and maintaining railway infrastructure systems in a variety of scenarios.</p>	 <p>Apply fundamental principles to analyse complex problems for efficient and sustainable planning and maintenance of railway infrastructure projects.</p>
 <p>Utilise appropriate methods and processes for the planning and maintenance of railway projects and operational systems.</p>	 <p>Manage and communicate information effectively in a professional manner.</p>

Who should complete this course?

This microcredential is designed for engineers and other interested learners who want to upskill in railway engineering and leverage growing job postings across Australia.

It will be useful for both graduate civil engineers and professional civil engineers.

Upon completion

Upon course completion, you will promptly apply these skills in your workplace, including implementing railway infrastructure planning and maintenance according to Australian standards, managing railway projects and systems, and analysing complex issues for efficient planning and maintenance.

Upon successful completion of the written assessment, you will be awarded 0.5 Postgraduate Level Credits from Deakin University, and a Credly digital badge. You can either earn a stand-alone credential or build up your credits by completing more stackable microcredentials offered by Deakin University and work towards a full postgraduate degree.

Key modules	
1	Understand industry guidelines and build design skills to unlock new positions in railway engineering.
2	Rail maintenance within the railway industry, covering civil, mechanical, signalling and electrical systems.
3	Methods and processes for effective planning and maintenance of railway projects and operational systems.
4	Relevant industry guidelines for planning and maintaining railway infrastructure systems.
5	Australian national standards.

How to enrol

Use the QR code to enrol.







They bring the classroom right to you

“FutureLearn courses are always interesting and informative. They bring the classroom right to you and send you on a journey to explore new ideas and offer interesting topics.” - Gayle B.

Advance your career in rail track engineering with unique Diploma-level training designed by industry, for industry.

This 12 + month program is delivered online. Participants can enrol in full or part time study for this qualification.

Learning outcomes	
 <p>Evaluation of complex infrastructure engineering problems using technical expertise and STEM principles in a range of known or changing contexts.</p>	 <p>Apply ethical and professional conduct to technical operations that support the delivery of infrastructure projects, from planning and design to construction and maintenance.</p>
 <p>Develop and design infrastructure engineering solutions that are practical, cost-effective, sustainable and adhere to legal and regulatory requirements for a range of industry contexts.</p>	 <p>Work collaboratively and communicate effectively with diverse stakeholders, including clients, industry experts and team members.</p>

Career outcomes

Graduates will have levels of knowledge of rail track engineering, legislation and regulation, such that they can operate under professional supervision in designing, constructing, commissioning, monitoring, maintaining and managing a section of track. They will be equipped to communicate and work with stakeholders and ensure the track meets rail industry standards.

Pre-requisites

The course is restricted to participants who have:

- A minimum of three years' industry experience and current employment in the industry, with
- A Certificate III or higher in engineering or a related field.

Monash University – Engineering undergraduate elective



Railway engineering – Delivered on campus

This elective unit at Monash University focuses on the essential subsystems of a modern railway network, including track systems, rollingstock, power supply and signalling. It is the first undergraduate railway unit offered in Australia which combines theoretical knowledge with practical applications, to provide an excellent foundation in the fundamental engineering and technologies utilised on railways.

It covers the principles of planning and designing railway infrastructure, emphasising track geometry, vehicle interaction and the selection of rollingstock based on international standards. The unit delves into the dynamics between rail vehicles and tracks, maintenance issues and the wheel-rail interface, including vehicle guidance and stability. Additionally, it addresses current practices in inspection and maintenance, as well as safety criteria related to derailments and track instability.

The unit delivery is supported by world-renowned railway applied research centre Monash Institute of Railway Technology.

Learning outcomes
<ul style="list-style-type: none"> • Describe the main subsystems in a modern railway network.
<ul style="list-style-type: none"> • Formulate criteria to select track components and locomotive specifications considering environmental impact, traffic loading and operational requirements.
<ul style="list-style-type: none"> • Apply theories and fundamental principles for planning, design and maintenance of railway infrastructure.
<ul style="list-style-type: none"> • Evaluate safety measures and regulations for railway systems, including track integrity, operations and risk assessments.

Railway Design Construction and Maintenance - Delivered on campus

In a nation-first, this is a mandatory rail unit within the undergraduate bachelors degree of civil engineering. This unit provides students with foundational knowledge of the associated civil and structural engineering aspects of rail. It covers track design, railway bridge and tunnel design considerations and some of their associated services, as well as track maintenance and emergency recovery from an infrastructure and civil works perspective

Learning outcomes

- Analyse critical design parameters for rail infrastructure such as tunnels, railway bridges and the structures supporting overhead line equipment, including wind loading.
- Investigate the various stages in civil works associated with a railway project, from concept to commission including consideration of indigenous/cross cultural aspects.
- Examine railway systems from an asset management and emergency recovery perspective (track maintenance, accidents, natural disasters, emergencies affecting the rail network).
- Explain and examine track geometry and related ground topography.
- Use effective teamwork skills to plan, investigate and communicate outcomes of an engineering study.

Railway System Mechanics - Delivered on campus

This unit provides foundational coverage of the mechanical and reliability engineering aspects associated with railway engineering. It covers rollingstock analyses and design principles, wheel-rail interface, transmission systems, braking, track assessments and defects, condition monitoring and an introduction to rail engineering reliability and its management as well as rail system maintenance.

Learning outcomes

- Analyse rollingstock from a statics and dynamics perspective.
- Classify various on-board power transmission and traction systems.
- Examine and calculate the reliability of mechanical systems in railway systems.
- Use effective teamwork skills to plan, investigate and communicate outcomes of an engineering study.
- Examine Systems Engineering in the context of railway systems.

Railway Electrical, Control and Signalling Systems - Delivered on campus

This unit provides students with foundational knowledge of the electrical, electronic, control and communications aspects of railway engineering. It covers signalling, operational telecommunications infrastructure, train control systems, overhead line equipment as well as both train and track power systems. Technical and operational considerations for railway systems, including safety and information security are also addressed.

Learning outcomes

- Investigate the operational and design principles of signalling, Active Protective Level crossing and interlocking systems.
- Differentiate and analyse various power systems to support railway operations, including on-board and substations.
- Explain and examine overhead line equipment, including its testing and commissioning.
- Examine operational communication and IT systems, including train detection and information security.
- Use effective teamwork skills to plan, investigate and communicate outcomes of an engineering study.



ARA Graduate Learning

Postgraduate programs

Engineers Australia Graduate Learning Program – Rail

Upskill your graduates into high performing rail engineers.

Equip your graduates with the skills they need to thrive in this growing industry, including self-management, communication, project management and rail operations.

This is an ideal opportunity for you to attract and retain top talent, whilst preparing for your future projects and capability needs.

This program is delivered in partnership with Engineers Australia.



Attract and retain talent

Strengthens your graduate recruitment offering through structured development with clear learning outcomes and support for their future career.



Skills for success

Addresses critical skills gaps and develops interpersonal, business and project management capability.



Practical learning

Designed and delivered by experts in rail, engineering and education with a focus on practical application of learning.



Creates networks

Includes complimentary Engineers Australia graduate membership to increase networking opportunities (T&Cs apply).



Visibility of skills development

Know how your graduates are applying their new skills to their work through shared evidence of applied learning portfolios.



Drives performance improvement

Graduates learn to drive their own performance improvement and ensure they are meeting your company's standards through guided feedback activities.

Course modules

- 1 ARA Understanding Rail Course
- 2 Personal capability
- 3 Professional skills
- 4 Applied project management

Cost

\$5,990 ex GST per participant

For groups of 10+ to start in 2026, enquire about the Private Corporate Program.

How to enrol

Use the QR code to enrol or for more information contact Engineers Australia at graduate@eea.org.au



Graduate Research Industry Partnerships (GRIP)

The Safe Sustainable Accessible Railway (S2ARail) is a new GRIP program at Monash University. The S2ARail GRIP brings high achieving PhD candidates together with government and industry partners to solve real-world problems involving the railway industry.

This program will draw together the broad expertise of Monash University institutes and faculties to provide innovative and implementable solutions through research and development to the railway industry. The program will deliver an advanced and collaborative professional development program, to foster leaders of the future, and provide opportunities to collaboratively work on projects which have been identified to have a direct impact on the rail industry.

“



I have learnt so much in the relatively little time I have been in the GRIP program

“The GRIP program really stood out to me because it aims to solve relevant industry problems, particularly within the rail industry. My experiences with the GRIP program have been wonderful to date. Having academic, Monash IRT and industry supervisors have really helped me see the potential in my research and how it could directly translate into the industry.”
– Lily Tran PhD Candidate

S2ARail GRIP PhD Projects

Contribution of manufacturing issues to the development of high impact wheels

The project aims to determine whether there is a link between high impact wheels and residual stresses linked to the initial wheel manufacturing process.

Strategy for optimising battery life-cycles

This project will focus in developing a strategy to optimise the useful life of batteries (from sizing, use and transition between applications – such as from locomotive to fixed storage and then waste).

Improving unplanned tram disruption management

This project will explore unplanned disruptions and their management in tram systems through identifying global best practices in unplanned disruptions management, better understanding passenger experience and priorities for improvement in unplanned tram disruptions.

Dynamic scheduling of public transport drivers and services to respond to disruptions

This project will focus on the development of vehicle scheduling and dynamic rescheduling approach to respond to disruptions.

Doctor of Philosophy (PhD) scholarship opportunities

Expressions of interest are sought from outstanding candidates to undertake full-time PhD research at Monash University as part of Monash University's innovative Graduate Research Industry Partnerships (GRIP) program.

Use the QR code for more information or email S2ARail-GRIP@monash.edu





TrackSAFE Courses

Health, safety and wellbeing training

The TrackSAFE Foundation, established by the ARA and UGL in 2012, is Australia's only harm prevention charity focused on reducing deaths, injuries and near hits on the rail network. TrackSAFE also works to improve the wellbeing of rail employees.



Suicide Awareness Training

Explore TrackSAFE's Suicide Awareness Training, tailored for rail workers in Australia and New Zealand. This specialised program is designed to empower rail personnel with the skills and confidence to effectively engage with individuals in distress. Gain valuable insights into post-incident support services available for rail workers.

Learning outcomes

- This training equips rail workers to play a vital role in preventing suicides within public spaces, particularly in the rail environment.
- Our 'Gatekeeper' course enhances knowledge, skills and confidence, enabling participants to identify individuals at risk and respond safely, while also facilitating appropriate referrals to support services.

Who should complete this course?

Rail employees at all levels.

Course dates

The course can be completed online, at any time.

Registration fees

Free online course.

How to register

Use the QR code to access the 30-minute online course



If you are part of an organisation associated with the rail industry in Australia and New Zealand, simply complete the registration form for immediate access.

On average, there are 74 suicides or suspected suicides on the Australian heavy rail network each year. In addition, there are 67 attempted suicides on the heavy rail network and a small number annually on the light rail network reported to the rail regulator. As well, there are many self-harm incidents and threats of self-harm. In New Zealand there is an average of six suicides per year on the heavy rail network.

Mental Health First Aid Training

Mental Health First Aid (MHFA) is an internationally recognised mental health course.

TrackSAFE can deliver the Mental Health First Aid Standard Workplace course for groups of 10 – 20 adults for any organisation connected to the rail industry.

The Mental Health First Aid course is delivered by an Accredited Instructor in-house, either face-to-face, online with the instructor or a combination of face-to-face and self-paced learning.

Discover the globally recognised Mental Health First Aid (MHFA) course, providing essential skills to assist adults facing mental health challenges or crises. This evidence-based standard course equips you with a practical action plan to offer support until professional help is available or the crisis subsides.

Similar to having First Aid Officers in the workplace, our Mental Health First Aid Accredited Officers possess the expertise and confidence to engage in supportive conversations with co-workers, guiding them towards professional assistance. Serving as an informal support avenue outside of human resources or management, they complement existing services like the Employee Assistance Program.

Learning outcomes

- Recognition of signs and symptoms of mental health problems.
- Knowledge of causes, risk factors, and available treatments.
- Skills to provide initial help and support for mental health problems.
- Ability to take appropriate action in crisis situations like suicidal behaviour, panic attacks, stress reactions to trauma, overdose or threatening psychotic behaviour.

Who should complete this course?

The course is suitable for rail employees at all levels.

Group bookings

Contact the TrackSAFE Foundation on info@tracksafefoundation.com.au

Key modules

- 1 Taught by Accredited Mental Health First Aid Instructors.
- 2 The 12-hour Standard Mental Health First Aid course is typically delivered in 2 x 6 hour or 4 x 3 hour sessions face-to-face. Alternatively, the blended mode combines self-paced online learning and an instructor-led component, available face-to-face or via an online workshop.

Becoming an Accredited Mental Health First Aider

After completing the course, participants can undergo an online assessment for accreditation, which is valid for three years.

Determining the number of MHFA Officers

Organisations may align the number of Mental Health First Aid Accredited Officers with accredited First Aid Officers or promote involvement in peer-to-peer support programs. Diverse representation in terms of seniority, position, gender, sexual orientation and cultural background enhances accessibility and comfort for those seeking support.

Mental Health First Aid Australia Workplace Recognition Program

Organisations achieving a minimum staff training percentage within three years receive recognition – Gold, Silver or Bronze tiers.

Impact of Mental Health First Aid

Evaluations consistently demonstrate improved knowledge, confidence and sustained benefits over time. Studies indicate enhanced mental health, reduced stigmatisation, and increased support provision by participants.

Unlock the positive impact of Mental Health First Aid – empowering individuals and fostering a supportive workplace culture.

Psychological First Aid and Trauma Management

TrackSAFE can facilitate the delivery of three trauma management courses to your workforce, or can train people from within your organisation to deliver the training. Each course is three to four hours.

Preparing people who may be exposed to potentially traumatic events, and the first responders and managers who may provide support after an event, is part of a best practice approach to trauma management outlined in the *Rail Industry Trauma Management Framework*.

Learning outcomes

- What is trauma?
- Understanding trauma support
- Risk factors for not coping post event
- Recovery patterns
- Self-care including how to get help and personal coping plan
- Roles of different staff

Who should complete this course?

Designed to enhance resilience and readiness for employees exposed to or experiencing traumatic incidents, managers and first responders.

The course is suitable for rail employees at all levels.

Additional courses

Two FREE online trauma management courses will be available from October 2025 via the TrackSAFE website.

How to register

Contact TrackSAFE at info@tracksafefoundation.com.au or **0434 347 650** for more information.

For more information about TrackSAFE Training

Stay in the loop by emailing info@tracksafefoundation.com.au to receive updates on the availability of new training materials or to express your interest in participating in the 'Train the Trainer' course.



Want to know more?

We are here to guide you on your educational journey in the rail industry.

Follow us for updates



Stay connected with us on social media for the latest updates, success stories and announcements. Join the ARA Learning community and be part of a network that values education, collaboration and career growth.

<https://www.linkedin.com/company/austrail/>

Additional opportunities and collaborations



Explore more learning opportunities

In addition to our signature courses, the ARA is proud to partner with various institutions to bring you additional learning opportunities. Stay tuned for collaborative courses and joint ventures that will further enrich your knowledge and skills in the rail industry.

Future opportunities and developments



Stay tuned for future opportunities

As the rail industry evolves, so do our education programs. Keep an eye out for upcoming courses, workshops and certifications designed to address the latest trends and advancements in rail. We are committed to supporting your ongoing professional development in the dynamic field of rail.

Contact information and support



Get in touch with ARA Learning

For any inquiries or additional information, contact the ARA at workforcedevelopment@ara.net.au.



Contact Details

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