AIRAH

HVAC&R FOR A BETTER WORLD

Elevate your career with

AIRAH professional development courses

www.airah.org.au

HVAC&R TRAINING

About AIRAH

The Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH) represents professionals and practitioners in the HVAC&R and building services industry.

Leading a skilled and professional industry towards a sustainable future and a better world, AIRAH supports its members and the wider industry through professional development, events, resources, leadership and advocacy.

Founded in 1920, AIRAH has a long history of being part of the industry we serve. Today, we unite more than 4,000 industry professionals across Australia. With chapters in each state, our members are from multiple sectors and professional backgrounds – including engineers, refrigeration and air conditioning technicians, regulators, government and industry body representatives, university and TAFE educators, and more.

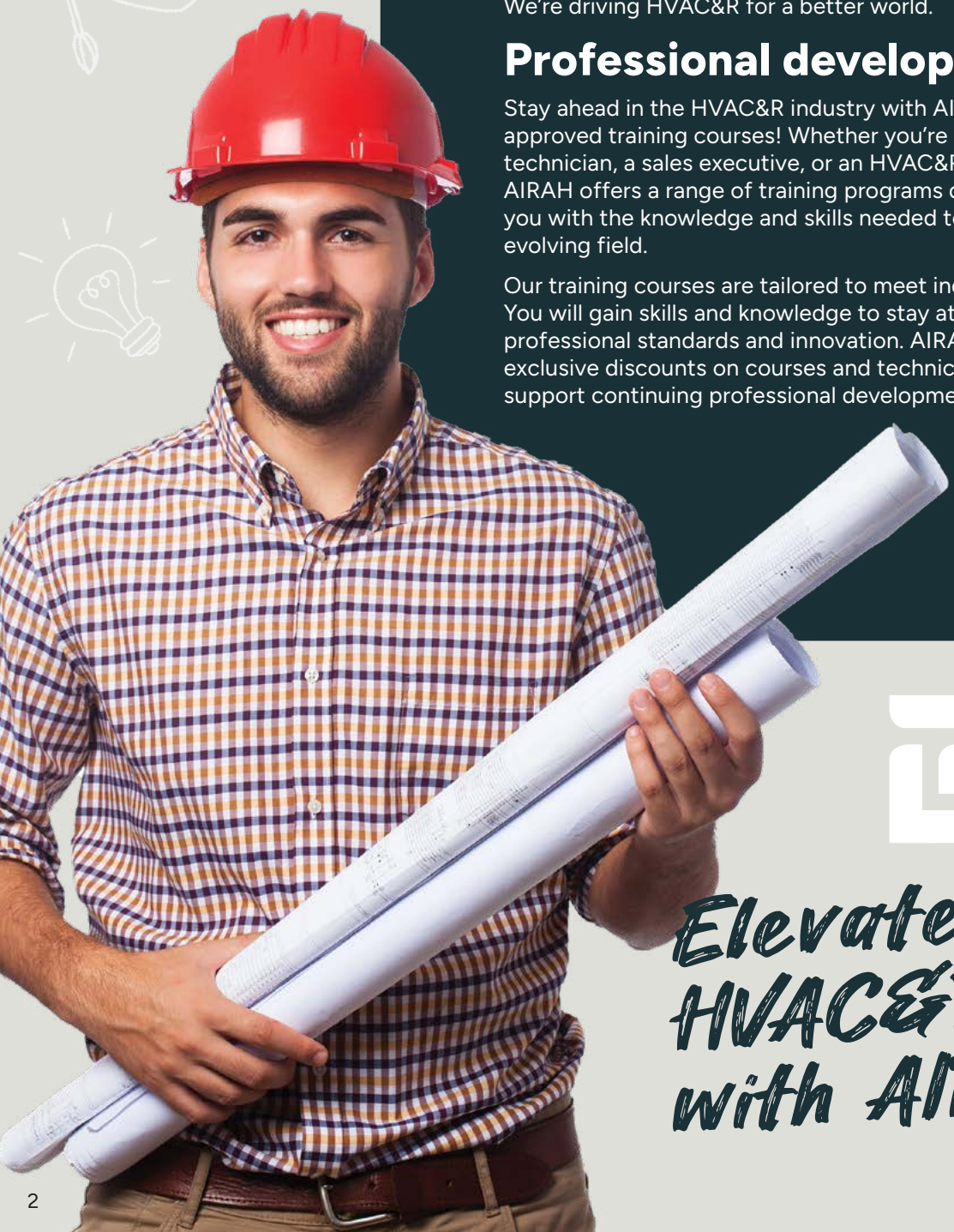
By creating common connections, we provide a platform that links an entire industry together with a common focus on innovation, safety and resilience.

We're driving HVAC&R for a better world.

Professional development

Stay ahead in the HVAC&R industry with AIRAH's industry-approved training courses! Whether you're an engineer, a trade technician, a sales executive, or an HVAC&R business owner, AIRAH offers a range of training programs designed to equip you with the knowledge and skills needed to lead in a constantly evolving field.

Our training courses are tailored to meet industry demands. You will gain skills and knowledge to stay at the forefront of professional standards and innovation. AIRAH members enjoy exclusive discounts on courses and technical content that support continuing professional development.



Elevate your HVAC&R career with AIRAH

COURSE TYPE	TOPICS	DELIVERY MODE	WHO SHOULD ATTEND		
		O = Online F = Face-to-face R = Remote	Industry professionals with:		
			1–3 years experience	3–5 years experience	5–10 years experience
Professional Certificate in HVAC Fundamentals	Air Filters in HVAC&R	O	✓		
	Duct System Design for HVAC	O	✓		
	Fans in HVAC&R and Industrial Ventilation	O	✓		
	Psychrometric Theory and Processes	O	✓		
	Cooling Towers: Installation, Operation and Maintenance	O	✓		
	Cooling Towers: Selection and Design	O	✓		
	Pumps: General Characteristics	O	✓		
	Pumps: Selection and Design	O	✓		
Professional Diploma in Building Services – HVAC&R	Fundamentals	Online with classrooms via webinar O	✓		
	Equipment and components	O	✓		
	Systems	O	✓		
	Practice and performance	O	✓		
NEW **Professional Diploma in Mechanical Services Regulatory Compliance**	Apply the national construction code and other regulatory requirements to mechanical services design	O			✓
	Design and manage the implementation of smoke control systems in buildings	O			✓
	Selection, installation, commissioning, operation and maintenance of fire, smoke and air dampers	O			✓
	Design and manage the installation of ventilation to address indoor air quality in buildings	O			✓
	Manage the microbial control of air-handling and water systems of buildings	O			✓
Short courses	NEW Indoor Air Quality in the Built Environment: Science, Assessment and Improvement	F	✓	✓	
	Air Conditioning 101	O	✓	✓	
	Water Treatment Service Providers Level 1: Technician	O	✓	✓	✓
	Water Treatment Service Providers Level 2: Supervisor	O	✓	✓	✓
	Ammonia Emergency Response	F	✓	✓	✓
	Ammonia Safety Awareness	F	✓	✓	✓
	Industrial Ammonia Plant Operations	F	✓	✓	✓
	Essential Safety Measures	R	✓	✓	✓
	Smoke Control and Fire Dampers	R	✓	✓	✓
	Building Ventilation	R	✓	✓	✓
	NEW Section J Part J6 Session 1: HVAC Controls	R	✓	✓	✓
	NEW Section J Part J6 Session 2: Fans, Pumps and Insulation	R	✓	✓	✓
	NEW Section J Part J6 Session 3: Heating and Cooling Plant	R	✓	✓	✓

Professional Certificate in HVAC Fundamentals

Good choice for students new to the HVAC&R industry

AIRAH's accredited Professional Certificate in HVAC Fundamentals is an opportunity to fast-track technical knowledge and skills through online learning. It can build on existing industry experience to provide in-depth technical insight.

This program has been designed so each of the eight units can be undertaken separately, with successful completion of all eight units (approx. 30–48 total hours) constituting the full Professional Certificate.

ALL MODULES		
DELIVERY	DURATION	CPD
Online	11 months	48

EACH MODULE		
DELIVERY	DURATION	CPD
Online	4–6 hours	6

This course was designed for:

- Graduate mechanical engineers
- Technicians
- Maintenance personnel
- Practitioners involved in design/day to day operations of HVAC&R systems

Please note:

Students can choose to complete only the individual modules that benefit their career or complete all modules (in any order) to obtain the full course certification.

Complete all modules in any order for Diploma

Module 1 | Module 2 | Module 3 | Module 4 | Module 5 | Module 6 | Module 7 | Module 8

or

Choose individual modules that suit your career

Module 2 | Module 5 | Module 8

MODULE 1

Air Filters in HVAC&R

This course covers the useful and required information to assist you in selecting and installing air filters. It also identifies the distinct types of air filters and their uses, as well as their specific applications and how to utilise standard air filter test reports and performance criteria.

MODULE 2

Duct System Design for HVAC

This course looks at the basics of ductwork design. Starting from the fundamental objectives for the ductwork system, it explains the pressure losses that occur in a system and how to calculate them. It also steps through the duct design procedures, looks at ways of sizing the system, and concludes with an overview of some other aspects of duct design.

MODULE 3

Fans in HVAC&R and Industrial Ventilation

This course defines fan types and characteristics within an air system. It also provides insight into the considerations and calculations necessary for fan selection and looks at how deficient fan/system performance is created, with a discussion on ways to prevent and/or rectify this.

MODULE 4

Psychrometric Theory and Processes

This course will provide you with an awareness and knowledge of psychrometric theory. It covers the basics of the science of psychrometrics – specifically as it is applied to air conditioning processes and system design. A general knowledge of the technical terms and the quantities used is provided, in conjunction with explanation and analysis of the psychrometric chart.

MODULE 5

Cooling Towers: Installation, Operation and Maintenance

Understand the appropriate installation, operation, and maintenance requirements when applying cooling towers as the heat rejection in an HVAC&R system.

MODULE 6

Cooling Towers: Selection and Design

Understand the appropriate selection and design requirements when applying cooling towers as the heat rejection method in an HVAC&R system.

MODULE 7

Pumps: General Characteristics

Understand the installation, operation, and maintenance requirements when applying pumps in an HVAC&R system.

MODULE 8

Pumps: Selection and Design

This course provides participants with the information required to assist in understanding the appropriate selection and design requirements when applying pumps in an HVAC&R system.

Professional Diploma in Building Services – HVAC&R

Good choice for people with 1–3y industry experience

The definitive training program for the HVAC&R industry, providing essential knowledge and skills to engineering graduates employed in consulting or contracting firms. This part-time, (approx. seven-months) online program will increase your exposure to the HVAC&R industry through comprehensive and practical training across four key areas.

This course is designed for:

Engineering graduates with 1–3 years of experience in HVAC design

To facilitate learning this course will have live webinar classrooms.

DELIVERY	DURATION	CPD
Online with classrooms via webinar	7 months	100

TOPIC 1 **7 WEEKS**

Fundamentals

- Introduction to practice
- Engineering fundamentals
- Introduction to HVAC&R – System types and applicability
- Introduction to system components
- Psychrometry
- Load and energy estimation
- Comfort conditions
- Refrigeration cycles and refrigerants

TOPIC 2 **7 WEEKS**

Equipment and components

- Chillers
- Pumps
- Fans
- Heat rejection
- Hot water heaters
- Heat exchange equipment
- Packaged systems

TOPIC 3 **7 WEEKS**

Systems

- Refrigeration systems
- Air systems
- Water systems
- Electrical systems
- System control
- Thermal storage and mass
- Passive, mixed-mode, and hybrid systems
- System design and selection

TOPIC 4 **7 WEEKS**

Practice and performance

- Industry practice
- Design and construction process
- Regulation and compliance
- Sustainability
- Bidding and tendering
- Estimating
- Programming
- Design
- Construction
- Commissioning and building tuning
- Operations, maintenance, and facilities management

AIRAH

All AIRAH courses **count towards continuing professional development (CPD) for engineers in Australia**

Professional Diploma in Mechanical Services Regulatory Compliance

Great choice for professionals wanting to supercharge their career

AIRAH's accredited Professional Diploma in Mechanical Services Regulatory Compliance addresses the compliance framework of the NCC and Australian Standards in smoke control, ventilation standards and microbial control in buildings.

This course is designed for:

- Mechanical engineers with 5–10+ years industry experience

ALL MODULES		
DELIVERY	**DURATION**	**CPD**
Online	24 months	300

EACH MODULE		
DELIVERY	**DURATION**	**CPD**
Online	approx. 60 hours	60

Please note:

Students can choose to complete only the individual modules that benefit their career or complete all modules (in any order) to obtain the full course certification.

Complete all modules in any order for Diploma

Module 1 | Module 2 | Module 3 | Module 4 | Module 5

or

Choose individual modules that suit your career

Module 3 | Module 5

MODULE 1

Application of the national construction code and other regulatory requirements to mechanical services design

This module provides an overview of the application of the National Construction Code (NCC) and other regulations relevant to Mechanical Services design and installation.

MODULE 2

Design and manage the implementation of smoke control systems in buildings

This module provides a holistic overview of smoke control in buildings, as applied by Australian Standard AS 1668.1:2015 The use of ventilation and air conditioning in buildings. Part 1: Fire and Smoke control in buildings.

MODULE 3

Selection, installation, commissioning, operation and maintenance of fire, smoke and air dampers

This module provides a complete overview of the application of fire, smoke and air dampers in building mechanical ventilation.

MODULE 4

Design and manage the installation of ventilation to address indoor air quality in buildings

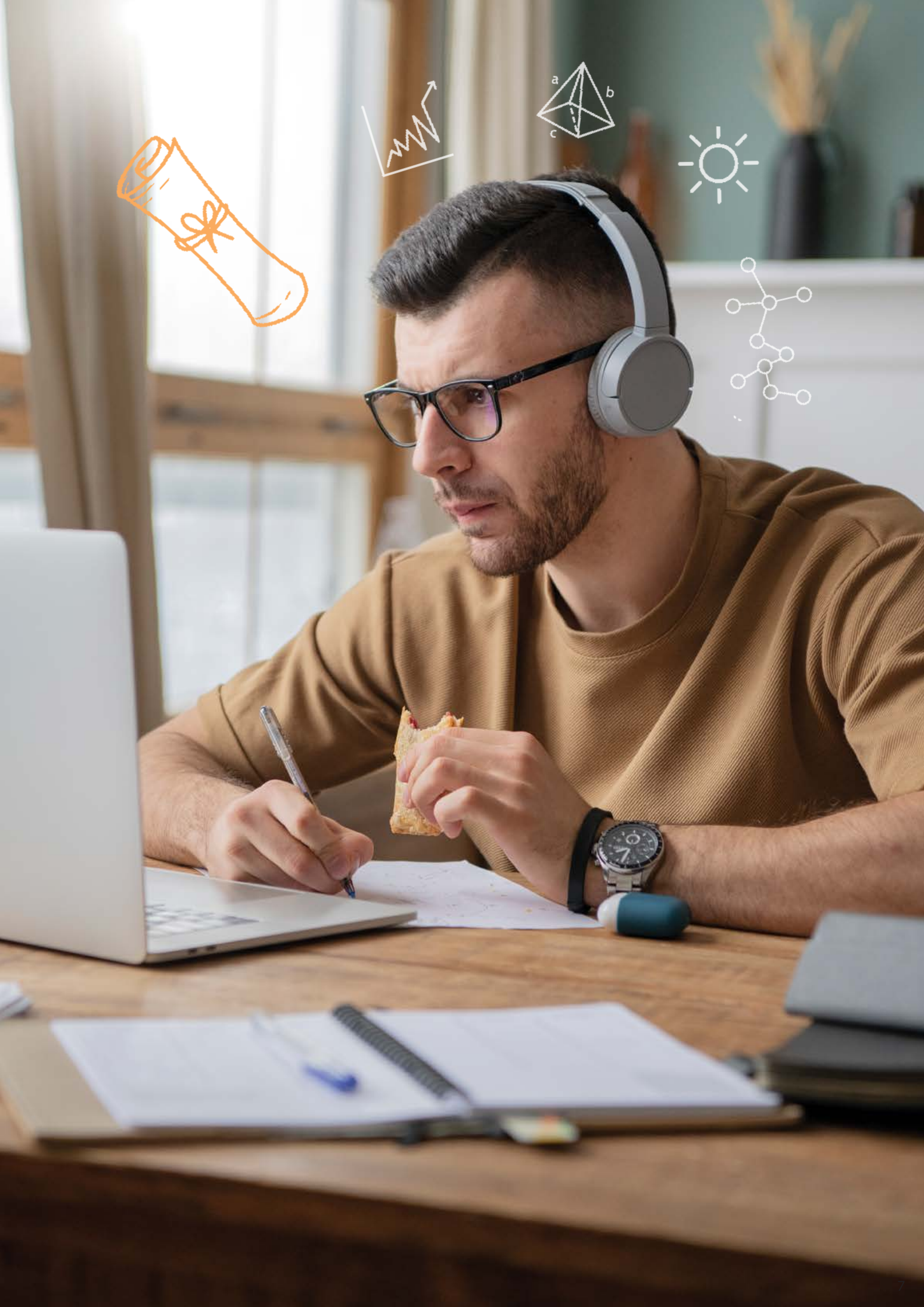
This module provides a complete overview of the application of minimum ventilation standards in buildings to address IAQ.

MODULE 5

Manage the microbial control of air-handling and water systems of buildings

This module has been aligned to the provisions and requirements of AS/NZS 3666 Parts 1, 2, 3 and 4 (Air-handling and water systems of buildings – Microbial control).

Go to airah.org.au/education for more information and to register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Short Courses

Indoor Air Quality in the Built Environment: Science, Assessment and Improvement NEW

DELIVERY	DURATION	CPD
Face-to-face	3 days	22

COURSE DATE: APRIL 21 - 23 2026

Indoor Air Quality matters, for health, comfort, energy, and trust in buildings. This three-day, face-to-face university course equips professionals to understand, assess and improve IAQ in real buildings, without becoming an engineer.

This course will guide participants in spotting IAQ risks, understand airflow and ventilation, how to use real IAQ tools, interpret data, compare technologies, and balance IAQ and energy to improve air quality without exceeding budgets.

AIRAH members are eligible to claim 22 CPD points for completing this course.

An AIRAH & University of Melbourne ALLIANCE

Air Conditioning 101

DELIVERY	DURATION	CPD
Online	2 – 6 hours	5

This online course offers a basic understanding of how air conditioning and ventilation works in buildings. It will help to familiarise you with the language and terms associated with the technology.

This course is designed for:

- People new to industry
- Facility managers
- Building operations staff
- Air conditioning sales and administration staff
- Apprentices, trainees and graduate engineers

Essential Safety Measures

DELIVERY	DURATION	CPD
Remotely via webinar platform	1 day	7.5

This course gives an overview of the codes and standards related to the control of fire and smoke within existing buildings in Australia.

This course is designed for:

- Technicians
- Supervisors
- Contractors
- Facility managers
- Design engineers

Water Treatment Service Providers Level 1: Technician

DELIVERY	DURATION	CPD
Distance with online exam	2 months	40

This course is an introduction to water treatment theory as it applies to cooling towers and related equipment.

This course is designed for:

- Technicians new to water industry
- On-site facility managers

Water Treatment Service Providers Level 2: Supervisor

DELIVERY	DURATION	CPD
Distance with online exam	2 months	40

Following on from Water Treatment Service Providers Level 1, this distance learning course helps you gain an understanding of the design, implementation, and monitoring of water treatment systems for cooling towers and related equipment.

This course is designed for:

- Technicians who have completed Level 1
- Staff responsible for training technicians
- On-site plant managers

Ammonia Emergency Response

DELIVERY	DURATION	CPD
Face-to-face	1 day	7.5

This one-day course provides participants with the practical and theoretical skills to competently manage an on-site ammonia leak.

This course is designed for:

- Plant managers
- Plant operators
- Maintenance contractors
- Refrigeration mechanics

GROUP DISCOUNT: 10% discount for 5 or more registrations on all courses offered

Ammonia Safety Awareness

DELIVERY	DURATION	CPD
Face-to-face (in-house only)	½ Day	4

This half-day course is designed for non-plant and non-refrigeration staff working near industrial ammonia plants. It provides a basic overview of ammonia-related information, common first aid procedures, and the required safety equipment for ammonia refrigeration sites.

This course is designed for:

- Mechanical services designers
- Equipment manufacturers and suppliers
- Maintenance contractors
- OHS team members
- Forklift drivers
- Stores personnel
- Administration staff
- Anyone working in or around an ammonia plant

Industrial Ammonia Plant Operations

DELIVERY	DURATION	CPD
Face-to-face	3 days	22.5

This three-day course is for refrigeration plant operators who need to gain a thorough knowledge of how an ammonia refrigeration plant operates, its components, legislative requirements, and maintenance.

This course is designed for:

- Plant operators
- Fitters and turners
- Electricians
- Maintenance contractors
- Refrigeration mechanics
- Boilermakers
- Contractors

Smoke Control and Fire Dampers

DELIVERY	DURATION	CPD
Remotely via webinar platform	1 day	7.5

This one-day course outlines how AS/NZS 1668.1 applies the principles of smoke control in new multi-compartment buildings.

This course is designed for:

- Mechanical services designers
- Equipment manufacturers and suppliers
- Maintenance contractors

Building Ventilation

DELIVERY	DURATION	CPD
Remotely via webinar platform	1 day	7.5

This one-day course has been aligned with the requirements of Australian Standards AS 1668.2-2012 and AS 1668.4-2012, with a particular focus on applications referenced in Volume 1 of the National Construction Code.

This course is designed for:

- Mechanical design engineers
- Mechanical services contractors and installers
- Architects
- Building surveyors
- Facility managers
- Project managers

Section J Part J6 NEW

EACH SESSION		
DELIVERY	**DURATION**	**CPD**
Remotely via webinar platform	2 hours	2

Section J Part J6 Session 1: HVAC Controls

This session introduces the foundational control requirements for air-conditioning and mechanical ventilation systems under Section J. It covers zoning, reheat limits, variable speed operation, ventilation modulation, and coordinated plant control—key strategies aimed at minimising energy use without compromising comfort or functionality.

Section J Part J6 Session 2: Fans, Pumps and Insulation

This session explores the performance-based and Deemed-to-Satisfy (DtS) pathways for HVAC air and water systems under Clauses J6D5 to J6D9, with a focus on reducing energy losses from excessive pressure drops, improving fan and pump selection, and applying duct and pipe insulation correctly.

Section J Part J6 Session 3: Heating and Cooling Plant

This session covers the Deemed-to-Satisfy (DtS) provisions in the NCC related to HVAC plant and equipment, including space heating, chillers, unitary systems, and heat rejection components. This session provides a comprehensive understanding of how equipment selection and system configuration contribute to achieving compliance under Section J6, with a focus on aligning HVAC plant performance with practical building use patterns and operational needs.

This course is new and now open for enrolments

Course presenters

Brett Fairweather

M.AIRAH, ARPEng

Brett Fairweather is a leading mechanical engineering consultant specialising in smoke control and ventilation in HVAC&R. An AIRAH member and APER-accredited engineer, he advances building safety and environmental efficiency through expert guidance, industry education, and standards development. A sought-after presenter and educator, Brett trains industry professionals in risk mitigation, system design, and safety compliance. With a reputation for technical excellence and leadership, Brett remains a driving force behind HVAC&R industry prioritising occupant well-being-safety.

Brad Prezant

Affil.AIRAH

Brad Prezant is a public health and occupational health scientist specialising in epidemiology, occupational hygiene, and air quality. With expertise in workplace health, he integrates public health and engineering principles to optimise environmental conditions.
A certified expert and industry leader, Brad contributes to key air quality standards, research, and ventilation system improvements worldwide.

Basil McKinley

M.AIRAH, Bachelor of Engineering, Australia

Basil McKinley has over 35 years of experience working as an engineer in the industrial refrigeration industry. He set up his own industrial refrigeration consultancy in 2011, where he has worked on a diverse range of projects with some of Australia's largest companies. Basil is a well-respected member of the refrigeration engineering community. He has been actively working as a trainer with AIRAH since 2017 where his experience with clients and managing projects has translated into him being one of AIRAH's most used trainers.

Sonia Holzheimer

M.AIRAH, FIEAust, CPEng, NPER, RPEQ

Sonia Holzheimer is a mechanical engineer with over 20 years of experience in the building and construction industry, and co-founder of SEQUAL – a Cairns-based consultancy specialising in energy-efficient HVAC design. Her early career included work on some of the country's most ambitious sustainability projects, including William McCormack Place I and II – Australia's first 5-star NABERS and 6-star Green Star office buildings constructed in the tropics. But while these credentials demonstrate what's possible, Sonia's real passion lies in what's practical.

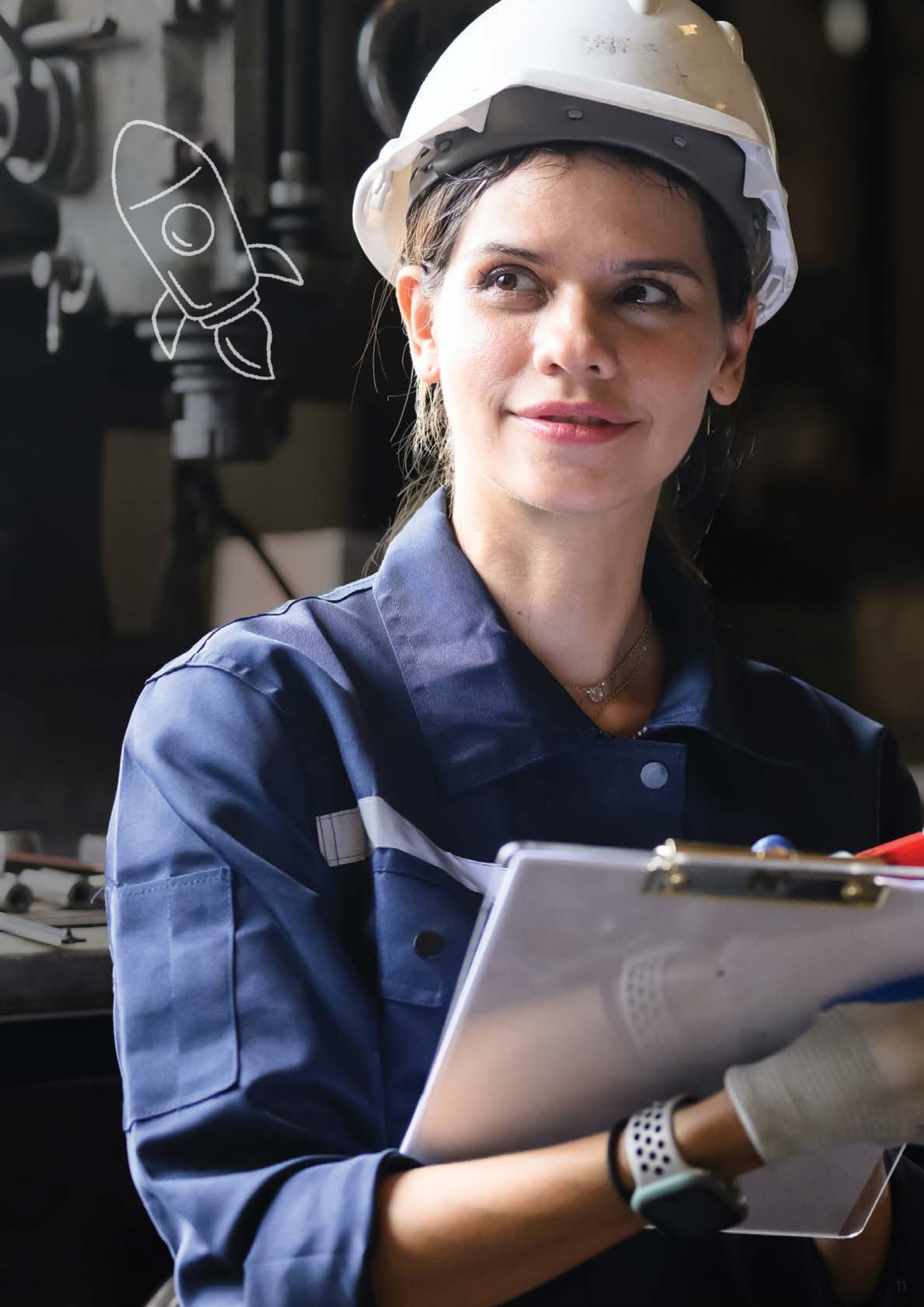
A Fellow of Engineers Australia and Registered Professional Engineer of Queensland, Sonia also chairs the Queensland Mechanical College Committee and the Women of AIRAH STG. She is a passionate industry volunteer and advocate for inclusive, visible leadership in engineering and construction.

Andrew Pang

AM.AIRAH, Diploma (Mechanical Engineering), Canada Graduate Diploma (Air Conditioning), Australia Bachelor of Education, Australia Cert IV (Assessment & Workplace Training), Australia

Andrew Pang brings a wealth of teaching experience to AIRAH in the refrigeration and air conditioning field in the trade, para-professional and undergraduate levels. He has 50 years of consulting engineering experience in the same field and more than 30 years of experience in industrial ammonia refrigeration. He is a Certificate IV qualified trainer and has conducted courses including ammonia training for AIRAH for more than 20 years. He is considered an expert in his field. Andrew gained experience in assessing the needs for courses, course structuring and implementation, curriculum and computer-based learning development for the university, government bodies and private enterprises. In the last 25 years, he has been a full-time consultant in refrigeration and air conditioning.

Our courses are designed and presented by *industry professionals* who are leaders in their own fields



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