



Establish the thermal environment management plan

<i>Competency Unit</i>	AMV102	Establish the thermal environment management plan
<i>Description of Unit</i>	This course provides the student with an understanding of the nature and range of underground mine cooling options (increased airflows, reduced intake transit times, refrigeration). The design, planning and operational aspects of vapour compression and absorption refrigeration plants are explained. The issues involved in determining the type of plant, its location (surface or underground) and its size are reviewed. Principles of cooling tower (bulk air cooler and condenser cooling tower) design are developed. The use of chilled service water and energy recovery devices such as Pelton wheels are discussed.	
<i>Applicable to</i>	Ventilation officers or engineers, mine planning or operations engineers, statutory regulators or any person who may need to design or modify temperatures and/or humidity in an occupational workplace.	
<i>Co-requisites</i>	AMV100, <i>Identify, analyse and evaluate psychrometric heating and cooling processes and climate</i>	
<i>Method of delivery</i>	1-day workshop with subsequent assignment(s).	
<i>Assessments</i>	Single mine climate control exercise including selection and optimisation of mine cooling (refrigeration) options and written report.	
<i>Locations</i>	Brisbane or Mackay. Also available at other locations at additional cost (<i>see below</i>).	
<i>Course presenter</i>	<p>Dr Rick Brake</p> <p>Dr Rick Brake is a Chartered Practicing Mining Engineer with 25 years experience in underground and open cut mines in senior planning and operating roles in Australia and North America. He graduated with First Class Honours in Mining Engineering from the University of Queensland in 1979, completed a Master of Business Administration from Deakin University in 1991 and completed a PhD in physiology from the School of Public Health at Curtin University in the area of human heat stress in 2002. He has a First Class Mine Manager's Certificate of Competency (Qld) and is a Fellow of the AusIMM, a member of MICA and the MVSSA, an RPE(Qld) and has consulted widely and published extensively in the areas of mine ventilation, cooling and refrigeration, heat stress and egress & entrapment.</p>	
<i>Hardware/ software requirements</i>	<p>Laptop with Windows™ and Microsoft Excel™</p> <p>Special 90-day fully-functional and latest versions of MineClimate™ and HotWork™ provided in tuition fees.</p>	
<i>Required text books and facilities</i>	Access to a working mine for measurements and audits.	
<i>Fees (\$AUD)</i> <small>[subject to change without notice]</small>	\$1,000 (no GST payable)	
<i>Conditions</i>	Fees apply for Brisbane and Mackay. Courses can be run at other locations. Additional fees may apply. All courses are subject to maximum and minimum registrations.	
<i>Further Information</i>	<p>TAFE Queensland Mining Services Phone: 1300 653 050 +61 7 4920 2654 Email: TQMining@det.qld.gov.au</p>	<p>Mine Ventilation Australia Phone: +61 7 3269 3733 Email: mvamail@mvaust.com.au</p>