



GRADUATE DIPLOMA IN MINE VENTILATION

BY EXTERNAL/DISTANCE LEARNING

(INCORPORATING OPTIONAL STATUTORY COAL MINE VENTILATION OFFICERS QUALIFICATION)

Introduction and Course Objectives

The Australian National Centre for Mine Ventilation (ANCMV) was established in 1999 and is an initiative of MTEC, the tertiary minerals education arm of the Minerals Council of Australia. The ANCMV is a virtual centre affiliated to The School of Mining Engineering at the University of New South Wales (UNSW). Staff are based in New South Wales and the United Kingdom.

The Graduate Diploma in Mine Ventilation was established in 2000. From 2002 it has been offered in a flexible delivery format using conventional learning methods supported by an internet platform.

The Diploma is structured so that it can be tailored to the needs of either the metalliferous or coal mining sectors. The accredited programmes offered by UNSW for the appointment of statutory Coal Mine Ventilation Officer's in both NSW and Qld can be taken as options in the Diploma.

The objectives of the Diploma are to provide competency based education and training in key aspects of underground environmental engineering. The course contents have been developed from standard texts, industry guidelines and case studies. These will be delivered from both a theoretical and operational perspective with the aim that course contents will be immediately relevant to industry.

Delivery Format

The delivery format is flexible and utilizes a mix of internet and conventional learning techniques. Based on WebCT™, it will be supported by;

- Course notes on CD
- Learning guides
- Online presentations
- Face to face tutorials and practical sessions,
- Reference books
- Online interactive peer networked sessions.
- Email.

Reference Books

A copy of the following reference books (or equivalent) will be provided;

1. Le Roux's Notes On Environmental Engineering.
2. Mine Ventilation And Air Conditioning (Hartman).
3. Mine Fires In Australian Underground Coal Mines
4. Spontaneous Combustion In Australian Underground Coal Mines.

Course Contents

The course contents are divided in to the following sections;

Module 1	1.1 Fluid Flow
	1.2 Fans And Auxiliary Ventilation
Ventilation And Mine Services	1.3 Ventilation Network Simulation
	1.4 Ventilation System Monitoring And Mine Services
Module 2	2.1 Mine Gases And Gas Laws
	2.2 Atmospheric Gas Monitoring
Environmental Contaminants	2.3 Airborne And Explosible Dust
	2.4 Mine Fires And Explosions
Module 3	3.1 Psychrometry
	3.2 Heat Transfer And Sources Of Heat
Heat In Underground Mines	3.3 Heat Stress Management
Module 4	4.1 Management Plans And Risk Assessment
	4.2 Project Economics
Ventilation System Management	
Module 5	5.1 Gas Reservoir Characteristics
	5.2 Gas Drainage, Outbursts And Windblasts
Coal Mine Hazards And Control	5.3 Spontaneous Combustion Of Coal
Module 6	6.1 Coal Mine Legislation
	6.2 Coal Mine Ventilation Planning And Practice
Coal Mine Ventilation	
Module 7	7.1 Refrigeration
	7.2 Ionising Radiation
Metalliferous Mine Hazards And Control	
Module 8	8.1 Metalliferous Mine Legislation
	8.2 Metalliferous Mine Ventilation Planning And Practice
Metalliferous Mine Ventilation	

Modules 1, 2, 3 and 4 are common to both metalliferous and coal mine courses with modules 5 & 6 or 7 & 8 taken as options.

Tutorials

Three "face to face" tutorial sessions are incorporated in the course. The sessions are:

Introduction – a one week overview of the course, summary of each module and explanation of course work and examination requirements. Module 1 Ventilation And Mine Services will be covered in detail to ensure candidates have the underpinning knowledge and competencies for the remainder of the course.

Although this introductory session is not compulsory, it is strongly recommended that candidates attend.

Practicals – two one-week tutorials covering use of ventilation network simulation software together with laboratory and underground practical aspects of the course will be provided. These will also be used for revision and to monitor candidate's progress.

It is a compulsory requirement of the course that, candidates wishing to obtain the statutory Ventilation Officer–Coal qualification, attend at least one of these practical sessions. The location and timing of practical sessions are subject to numbers and location of candidates. They may, for example, be offered at more than one location.

Coursework And Examinations

Candidate's progress will be monitored by coursework and self assessment tests provided for each module. This work will be completed according to a pre determined course schedule. Together with mine site assignments and laboratory sessions, it will form a significant part of the course marks and assessment.

There will also be final written examinations that will be undertaken at UNSW or, if necessary, a suitable establishment more accessible to candidates.

Assessment

The option exists to be assessed to National Competency Standards. This is compulsory for those wishing to satisfy the performance criteria and underpinning knowledge requirements agreed by the industry in Competency Unit MNC109 – Statutory Ventilation Officer – Coal.

Course Pre-requisites

It is assumed that candidates have sufficient underground experience to understand mining terminology and appreciate operational issues associated with course contents.

A reasonable ability in mathematics and use of spreadsheets is required for participants to gain most from the course.

Access to a computer with internet access is essential. Candidates will need laptop computing facilities at tutorial sessions.

Course Organiser

Assoc. Prof. Roy Moreby. Director Australian National Centre For Mine Ventilation, School Of Mining Engineering UNSW.

Consultant to the underground coal and metalliferous mining industries with 24 years experience.

Formerly Mine Official, Consolidated Gold Fields, South Africa
Ventilation Engineer, Carnon Consolidated, UK
Senior Ventilation Engineer – Pasminco Mining, Australia
Ventilation And Gas Drainage Engineer – Shell Coal Australia

Course Presenters

- **Assoc. Prof. Roy Moreby.**
- **Mr Duncan Chalmers.** Senior Lecturer, School of Mining Engineering ,UNSW.
Formerly Head Teacher, Mining, Illawarra Institute of Technology.
Under manager in Charge.
- **Prof Jim Galvin.** Head, School of Mining Engineering. UNSW
Formerly Mine Manager.
- **Select industry experts** as required.

Awards

Successful candidates will receive a UNSW Diploma in Mine Ventilation. An academic transcript of course options completed will be made available.

Candidates completing requirements for the statutory Ventilation Officer – Coal qualification, will receive an additional certificate to that effect.

Diploma Cost

The Diploma cost for Australian based students will be:

Standard Delivery and Assessment and Assessment to National Competency Standards: \$14,200

The Diploma cost for non Australian based students will be:

Standard Delivery and Assessment and Assessment to National Competency Standards: \$16,020

This cost excludes, transport or accommodation associated with tutorials, however, lunches will be provided

Provisional Timetable

Milestone	By When
Expression of interest	20 th December 2004
Registration	31 st January 2005
Commence course with introduction tutorial	18 th April 2005
Second tutorial	27 th June 2005
Third tutorial & final exams	19 th September 2005

Registration

To receive a course registration form and payment details

<ul style="list-style-type: none"> • Name • Position • Company 	<ul style="list-style-type: none"> • Postal address • Telephone: • Fax: • Email
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Expressions of interest or any questions should be sent to;

Kim Russell email k.russell@unsw.edu.au

Please copy email correspondence to

Roy Moreby r.moreby@unsw.edu.au