



## Maintenance and Reliability Engineering

Postgraduate programs in asset management by Off Campus Learning (Distance Education)

Fact Sheet for 2010 entry

### General Information

Maintenance and reliability engineering is a powerful tool in managing assets to improve industrial profitability. Surely MRE has never been more required with many physical assets required to be in service longer and to work better. Hundreds of engineers, managers and senior technical people, from around Australia and the world, have increased their skills and capability by completing Monash University MRE postgraduate programs.

Organisations from many industries have gained through such investment in their people's knowledge and skills. Individuals have equipped themselves for career advancement. Half of the specific skills engineers will *need in general* in the public sector, as identified in a recent Institution of Engineers study, are included in our programs. Engineers Australia report that recently there has been a dramatic swing away from managers without up-to-date technical skills, and that retraining in technical postgraduate courses was the best way for managers to boost their skills. An MBA no longer guaranteed improved earning power.

"In tough economic times like these, companies are often tempted to cut employee training and professional development programs. But a closer look at its value reveals that professional development might be more worthwhile than they think. The obvious argument for continuing to invest in professional development is that well-trained, skilled employees are important to an organization's long-term success. This is because professional development results in more productive, quality focused, and committed employees who will remain with the company once the economy rebounds and the competition starts recruiting again". [From message to ASME members, Dec 2008].

The programs were designed for and are only offered by **off-campus learning**: there are no matching on-campus classes. (These programs are also offered in North America with enrolment via the University of Tennessee. Different fees and application processes apply – contact [mrc@utk.edu](mailto:mrc@utk.edu) for details).

Study materials are print-based, with web-enhanced delivery. Our Unit Advisers are engineers from academia and industry, accessible via email or phone. Students are expected to access our extensive Library resources in this field, with much on-line material available.

Normally, two units are studied in a semester, but a lesser study load is possible. Units are offered on a semester basis and mid-year entry is available (except for the Graduate Certificate in Reliability Engineering). Each unit requires about 150 hours of effort through the semester, but this does vary with the individual. Our programs are:

- **Graduate Certificate in Reliability Engineering** (4 units)\*
- **Graduate Certificate in Maintenance Management** (4 units)\*
- **Graduate Diploma in Engineering Maintenance Management** (8 units)
- **Master of Maintenance and Reliability Engineering** (8 units with BE\*\*, 12 units for those advancing from the Graduate Diploma)

\* Applicants with relevant experience who do not hold tertiary qualifications are welcome to study one or two units on a fee-paying, not-for-degree basis. Completion of two units with 65%+ average grades enables transfer with full credit for units completed into the relevant Graduate Certificate, with the prospect of advancement into the Graduate Diploma, and likewise later into the Master's degree. This option is not available for enrolment via UTK.

\*\* These applicants can customise their studies, and choose 7 units, plus the mandatory project unit: MRE5008.

*The following particulars are common to all the programs:*

## Professional Recognition

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The programs satisfy the requirement of Engineers Australia for continuing professional development.

## Fees

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Commonwealth Supported Places apply for Australian citizens, Australian Permanent Resident Visa holders and NZ Citizens *resident* in Australia. The student contribution for 2010 is 946 per unit. Australian citizens and Permanent Humanitarian Visa holders paying upfront get 20% discount, and can defer payment via HECS-HELP or use the FEE-HELP loan scheme. Once these places are filled, full-fee places are available (2010 fee is \$A2175 per units). Other students are *international* students, whether residing in Australia at present or not. The fee for 2010 is \$A2300 per unit. (Textbooks are required for some units and are not included: see website).

Anybody with suitable experience is welcome to study one or two units on a fee-paying basis at the rates above (\$2175 or \$2300) without enrolling in a complete program leading to an award. However, a complete qualification is the best outcome and can only be gained by acceptance into a program (and passing it). See the details on the previous page.

## Assessment

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Assessment varies from unit to unit, with all having assignments and/or projects and most also having an examination. Examinations are arranged anywhere in the world.

## Computer Requirements

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Students must have access to a personal computer, email and the internet with broadband preferred.

## Further Information

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The School of Applied Sciences and Engineering site [www.gippsland.monash.edu/science/mre/](http://www.gippsland.monash.edu/science/mre/) has more detailed information, including details of the units of study and suggested study pathways.

Any questions? Contact the School's Manager Administration and Student Services by email: [mre@sci.monash.edu](mailto:mre@sci.monash.edu) or the Co-ordinator, Ray Beebe, [Ray.Beebe@eng.monash.edu](mailto:Ray.Beebe@eng.monash.edu), telephone (03) 9902 6496, or (03) 5122 6496, or +613 5122 6496 or by fax (03) 5122 6738.

## Completed Applications

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Applications require the form that can be downloaded via the above site. There is also an Explanatory Note to help complete it. Note carefully the English language requirements. On-line application is also possible.

Applications must include a certified copy of a degree testamur or other tertiary qualifications, but copies of certificates from private short non-award courses are NOT required. A CV is also requested, and is essential for applicants without a degree, showing experience, training, and current level of responsibility (in budget, or staff managed, etc.).

Credits may be granted for completion of similar units studied previously at postgraduate level that did not form part of a completed award, and it is the responsibility of the applicant to request such credits and provide evidence of content and of completion.

Applications for Semester 1 entry each year open in August, are preferred by 30 November and close on 15 January. Applications for Semester 2 entry close on 15 June.

Mail to MRE Enrolments, SASE, Monash University Gippsland, Churchill VIC 3842 Australia. Later applications may be accepted if places are available.

## Unit offerings

Unit Code and Title	Avail.	GradCert Reliability Eng	GradCert Maint Mgt	GradDip in EngMaint Mgt	Master of M & RE – Direct Entry	Master of M & RE – GradDip Entry
MRE5001 Terotechnology & Life Cycle Costs	Sem 1		Y	Y	Y*	
MRE5002 Maintenance Management	Sem 1		Y	Y	Y*	
MRE5003 Industrial Techniques in Maintenance Management	Sem 2		Y	Y	Y*	
MRE5004 Asset Management Techniques	Sem 2		Y	Y	Y*	
MRE5005 Quantitative Techniques for Asset Management	Sem 1			Y	Y	Y
MRE5006 Machine Condition Monitoring & Fault Diagnosis	Sem 2			Y	Y*	
MRE5007 Risk Engineering	Sem 2			Y	Y*	
MRE5008 Maintenance and Reliability Engineering Project	FY			Y	Y	
MRE5101 Basic Quantitative Skills for Reliability Engineering	Sem 1	Y			Y	
MRE5102 Understanding Reliability	Sem 1	Y			Y	Y
MRE5103 Advanced Reliability **	Sem 2	Y			Y	Y
MRE5104 Reliability Applications **	Sem 2	Y			Y	Y
Elective management, computing or infrastructure unit	Varies					Y

\* For Master of M&RE entry after completion of GradCertRelEng, choose any 3 of these units, plus MRE5008.

\*\* Pre-requisites apply

For Graduate Diploma entry after completion of GradCertRelEng, the 4 units listed for GradCertMaintMgt are usual, but others can be chosen (not MRE5008)

Full details of study pathways can be found at [www.gippsland.monash.edu.au/science/mre](http://www.gippsland.monash.edu.au/science/mre)

While the information provided in this flyer was correct at the time of its publication, Monash University reserves the right to alter procedures, fees and regulations should the need arise. Information here was correct as at 12 November 2009