



Advanced Power Plant

Offered by CQUniversity

**Delivered Term 1, 2010, Gladstone
March 22 to 24**

Advanced Power Plant Course code: ENPG21002

Power Generation is a mechanical and electrical asset intensive business. These mechanical and electrical assets must be managed to optimise the benefits, costs and risks over the full life cycle of the generating plant. A range of asset management strategies can be applied and methods of monitoring effectiveness are considered. Methods of developing projects are evaluating proposals against viability criteria are examined. Generating plants are complex industrial systems and numerous management systems must operate in an integrated fashion to achieve the overall goals.

Course description

This course presents features, operation, advantages and limitations of common power plants, drivers for improvement, and features of advanced power plants. It introduces students to analysis of thermal performance and principles of plant design and operation, including fuel preparation, optimisation of combustion, performance improvement and economics of operation, maintenance and statutory inspection.

The course is designed by industry and education experts.

On successful completion of this course, students should be able to:

- Describe the features, operations, advantages and limitations of common power plants;
- Explain the drivers for improvement and main features of advanced power plants;
- Analyse the thermal performance and explain the principles of power plant design;

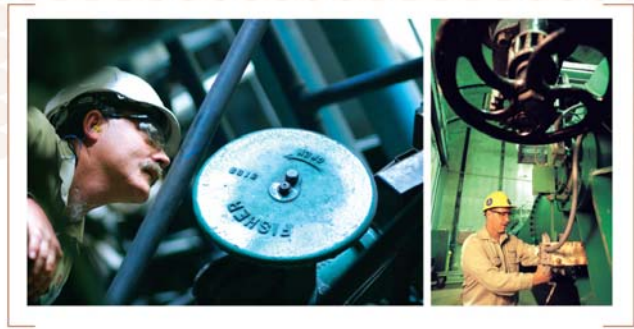
- Apply comminution theory to fuel crushing and pulverising plant;
- Analyse and optimise the combustion processes;
- Analyse and recommend opportunities for performance improvement;
- Identify and resolve operation and maintenance problems;
- Assess the economics of plant operations;
- Conduct statutory inspections.

Presenter

Dr Mohammad Rasul obtained his PhD in Energy and Thermodynamics from University of Queensland, Australia. Dr Rasul is working as a Senior Lecturer in Mechanical Engineering and Head of Department of Sustainability at CQUniversity Australia. During his research career he has developed a model for energy efficient and environmentally more acceptable method of power generation from agricultural wastes. He is a specialist and experienced in research, teach and consultancy in the areas of thermodynamics and fluid mechanics, power and energy systems, process industries energy and pollution analysis, sustainability and resource industries, renewable energy systems and their design.

Mr Malcolm Leinster, Director, Leinster Consulting, Australia. Malcolm comes with 39 years of mechanical engineering experience in the power generation and other heavy industry. He has been responsible for plant life extension, optimising designs for pressure and mechanical equipment, boilers, fly ash handling, furnace ash removal and pulveriser development.

For more information and contact details, please visit
www.powergeneration.edu.au



Who should attend?

The Power Generation program has been developed to improve the technical competency of professional engineers and those working in para-professional roles within the power sector.

This course would benefit:

- Maintenance supervisors and coordinators
- Plant and maintenance engineering staff
- Operations engineering staff and supervisors
- Technical support staff

Application details

Advanced Power Plant can be taken as a stand alone (non-award) course or as part of a postgraduate program offered at each of the partner universities.

Available programs are Graduate Certificate, Graduate Diploma and Master's.

Application deadline for this course is February 12, 2010

For online application go to:

<https://applyonline.cqu.edu.au/faces/views/applyonlineWelcome.xhtml>

For more information on programs enrolments go to:

<http://www.powergeneration.edu.au/>

Price and payment details

\$3250.00 (includes course materials and refreshments)

Students are issued with an electronic invoice once they are enrolled in the course. Further payment details are available from www.cqu.edu.au

Venue

Advanced Power Plant is delivered over a three day workshop with assignments to be completed after the workshop.

The workshop will be held at CQUniversity in Gladstone.

Contact:

Ph: 132786

Web: <http://www.cqu.edu.au/>

For more information and contact details, please visit www.powergeneration.edu.au



Upcoming Power Generation Skills Development Courses

Subject/Unit Code	Title	University	2010 Delivery Dates	Location
Semester 1				
EPG001	Introduction to Power Plant	QUT	Block A1: 9, 10, 11 February Block A2: 16, 17, 18 February Block B: 2, 3 March	Tarong Power Station Tarong Power Station QUT, Room O303A
MECH7650	Regulation, Compliance and Safety	UQ	Block A: 15, 16, 17 March Block B: 12, 13 April	Brisbane
ENPG21002	Advanced Power Plant	CQU	Block A: 22, 23, 24 March	Gladstone, PELM Conference Room
EPG011	Industrial Electrical Power Distribution	QUT	Block A: 4, 5, 6 May Block B: 25, 26 May	QUT, Room O303A QUT, Room O303A
Semester 2				
EPG015	Protection of Industrial Power Systems	QUT	Block A: 7, 8, 9 July Block B: 22, 23 July	QUT, Room O303A QUT, Room O303A
ELEC7050	Generator Technology Design and Application	UQ	Block A: 19, 20, 21 July Block B: 27, 28 September	Brisbane
EPG001	Introduction to Power Plant	QUT	Block A1: 3, 4, 5 August Block A2: 10, 11, 12 August Block B: 24, 25 August	Tarong Power Station Tarong Power Station QUT, Room O303A
EPG006	Applied Thermodynamics	QUT	Block A: 7, 8, 9 September Block B: 28, 29 September	QUT, Room O303A QUT, Room O303A
ENPG22001	Power Plant Chemistry	CQU	Block A: 8, 9, 10 September	Gladstone, PELM Conference Room
EPG005	Project Delivery	QUT	Block A: 5, 6, 7 October Block B: 25, 26 October	QUT, Room O303A QUT, Room O303A
ENPG21001	Asset Management Systems	CQU	Block A: 8, 9, 10 November	Gladstone, PELM Conference Room

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