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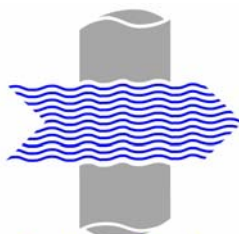
**PROFESSIONAL DEVELOPMENT COURSES**  
**HYDROMETALLURGY**  
**2004 PROGRAM**

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*Supporting our Industry*



**MURDOCH**  
**UNIVERSITY**  
PERTH, WESTERN AUSTRALIA



**Parker Centre**



These courses are endorsed by the Minerals Council of Australia as part of the MTEC initiative. They are part of an ongoing commitment by the Parker Centre and Murdoch University to enable the Australian minerals industry to continue to be the world's best.

## **Murdoch University in collaboration with the Parker Centre and the Minerals Council of Australia offers a number of professional development courses in the field of hydrometallurgy**

These courses have been structured on two levels to

- i) assist professionals in the industry to refresh their knowledge and skills and to keep up to date with new developments
- ii) to provide the necessary skills for those working in the industry who have not had suitable training in the fundamentals of hydrometallurgical processes at a tertiary level.

The focus in these courses is on problem-solving skills and the students will be expected to apply the principles to the solution of relevant problems. The advanced courses are based mainly around appropriate case studies.

Hydrometallurgy is a multi-disciplinary subject encompassing the physical and biological sciences and engineering. This is what makes it such an interesting and exciting subject for study.

### ***WHO SHOULD PARTICIPATE***

These courses have been designed in conjunction with industry for the benefit of those currently employed in the industry who will benefit from a refresher course in hydrometallurgy or who have not received specialised training in the science and engineering of hydrometallurgical processes.

Others who will find these courses of particular value are graduates from other disciplines such as chemistry, environmental science, geology or chemical engineering who hope to make a career in the mineral industry.

### ***COURSE OBJECTIVES***

The objectives of these courses are to:

- Introduce the student to the fundamentals of the science and the engineering of the processes used in hydrometallurgy.
- Provide the student with the necessary tools to be able to evaluate alternative flowsheets and to devise novel approaches to the hydrometallurgical recovery of metals.
- Enable the student to assess operating data from a hydrometallurgical plant and to make recommendations aimed at the optimization of or modification to the process.

## ***ENROLMENT FOR CREDIT***

Participants can enrol at Murdoch University and use the basic courses for credit towards a **Post-graduate Diploma** in Extractive Metallurgy. The entry qualification is a first degree in a relevant area and/or relevant plant experience. Graduates of a recognized extractive metallurgy program are not eligible to enrol for the Post-graduate Diploma.

Participants attending the advanced courses which are held after each basic course can use these for credit towards a **Masters Degree**. The entry qualification is a recognized four year degree in extractive metallurgy or, in exceptional cases, a three year degree in extractive metallurgy with relevant plant experience. Other graduates with appropriate experience may enroll after completing additional units specified by the program chair.

## ***COURSE ASSESSMENT***

Participants can attend the courses without enrolling for a diploma or a degree. Those that do enrol will be assessed on the basis of assignments and case studies submitted during each course as well as a written, open-book test at the conclusion of each course.

## ***TIMETABLE AND FEES 2004***

### **Process Mineralogy**

June 28-29, 2004	\$1000
June 30-July 2, 2004 (Advanced)	\$1800

### **Fundamentals of Hydrometallurgy**

July 19-21, 2004	\$1500
July 22-23, 2004 (Advanced)	\$1200

### **Leaching Processes**

August 23-24, 2004	\$1000
August 25-27, 2004 (Advanced)	\$1800

### **Separation Processes**

October 4-5, 2004	\$1000
October 6-8, 2004 (Advanced)	\$1800

### **Metal Reduction Processes**

November 8-9, 2004	\$1000
November 10-12, 2004 (Advanced)	\$1800

### **Gravity Gold**

November 29-30, 2004 (Advanced)	\$1200
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### **Gold Hydrometallurgy**

December 1-3, 2004 (Advanced)	\$1800
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The course fees include a set of comprehensive notes, lunches and teas. The university can assist with locating suitable accommodation. The advanced courses will be offered subject to sufficient numbers of participants. Participants who enrol at Murdoch University for a Postgraduate Diploma or a Masters Degree would be liable for the normal postgraduate fees in lieu of the above fees.

## ***PRESENTERS***

Most of these courses have been developed and used at Murdoch University as part of the Minerals Tertiary Education Council's initiative. They will be led by Professor Mike Nicol and a team from the university including Dr Gamini Senanayake, Dr Nick Welham, Dr David Ralph, Dr Jim Avraamides, Bill Staunton, Greg Wardell-Johnson and Dr Lawrie Davidson. Contributions will also be made by Dr Jeff Vaughan from Curtin University and Professor Andre Laplante from McGill University.

**For further information about our courses and enrolment at Murdoch University, please visit our website**

[www.scieng.murdoch.edu.au/mineral/index.html](http://www.scieng.murdoch.edu.au/mineral/index.html)

or

For details of the courses contact Nick Welham

[nicholas.welham@murdoch.edu.au](mailto:nicholas.welham@murdoch.edu.au)

☎(08) 9360 2831

For enrolment details contact Nimal Subasinghe(Program Chair)

[N.Subasinghe@murdoch.edu.au](mailto:N.Subasinghe@murdoch.edu.au)

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