

Students who have successfully completed the postgraduate certificate programme with a satisfactory level over the four courses have the option to reassess the courses towards the masters degree as long as the certificate has not been awarded. This leaves only two courses to complete the programme. Entry to the masters programme prior to the postgraduate certificate programme is possible, as long as students complete both programmes successfully (total of six courses).

Outline

In addition to the four courses covered in the postgraduate certificate programme, there are two further courses that make up the masters programme:

- Advanced Design for Reduction Technology
- Individual Research Project

The Advanced Design for Reduction Technology course focuses on the specification, planning and execution of a specific process design project in reduction technology. This project is carried out in groups, each member as specialist for one or two areas.

The topic for the Individual Research Project will be tailored to the student's role and interest and agreed upon after consultation between the student, academic supervisor and company management. Students will need to complete this in their own time from home.



Class of 2012 at Trimet, Germany.

Teaching/delivery methods

The programme will be run as three sections:

Section 1 – Individual assignment to prepare for group project that is compiled and reported during the onsite lecture (extramural).

Section 2 – Onsite lectures, tutorials, site visits and compilation of group project conducted over two weeks at a smelter (location varies).

Section 3 – Individual Research Project (extramural), involves some original research and interpretation by the students and must be on a scale that can be completed and written up as a report within four months. Example projects are available on the website.

English language requirements for MEngStLMRTech

To transfer to the masters programme, students are required to provide proof of their ability to communicate in English. The programme website has details as to the requirements.

University of Auckland

The University of Auckland is New Zealand's leading and largest university. It is ranked in the top 100 of the QS World University Rankings and is the highest ranked New Zealand university in the Times Higher Education and Shanghai Jiao Tong Academic Ranking of World Universities. The University of Auckland is an international centre of learning and academic excellence. It is New Zealand's pre-eminent research-led institution and has key linkages with many of the world's top research-intensive universities. The University's mission is to be a research-led, international university, recognised for excellence in teaching, learning, research, creative work and administration.

Further information

For further information, please see our websites:

www.lightmetals.co.nz/training/post-graduate-certificate-course

Postgraduate Certificate

www.engineering.auckland.ac.nz/pgcertlmrtech

Master of Engineering Studies

www.engineering.auckland.ac.nz/mengst-lmrtech

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Postgraduate study in Light Metals Reduction Technology



Introduction

The University of Auckland offers two highly practical study options in the field of light metals reduction technology; a postgraduate certificate, which is a key qualification for running smelters and a Master of Engineering Studies degree for those who wish to continue their studies at an advanced level. These two programmes are designed to work together; both programmes need to be successfully completed for the masters degree to be awarded. Besides these more industry focused options, students also have the option of studying in this area via Master of Engineering and PhD routes.

Postgraduate Certificate in Light Metals Reduction Technology (PGCertLMRTech)

Why apply for this programme?

This programme teaches advanced concepts in chemical and materials engineering specific to light metals reduction technology, especially aluminium. The programme content draws on recent advances in technology and leading edge research and uses experts from academia and industry as lecturers and tutors. It covers the complete process of aluminium production from raw materials to final products, with a strong practical and plant-based focus. The programme is a combination of a three-week intensive residential course in a location adjacent to a working smelter (exact location varies) and extramural study to be carried out from students' home.

This is a hugely valuable programme for people involved in the running of smelters and it is aimed at experienced technical and operations staff who hold a relevant bachelors degree in Engineering or Science and wish to advance their knowledge of the smelting process to a higher level. Those without a relevant academic qualification but who have appropriate experience can still apply for industry training which is held in conjunction with the postgraduate certificate programme. More details as to the requirements may be found on the programme webpage.

Where will it take you?

The majority of students taking this programme are from the smelting industry, which provides an opportunity for sharing experiences and making industry contacts. The knowledge gained from this programme will help advance your career within the industry.

It also provides a springboard to further study in the field, such as the masters degree, which is designed to address plant-oriented problems of importance to you.

What our students say?

"The PGCert course is miles ahead of any of the other aluminium specific training offered in the market; both in terms of the content as well as the structure. During the three week program, I had the opportunity to meet and learn first-hand from several of the most respected figures in the industry. The course is highly recommended for both entry level engineers as well as seasoned professionals."

Rajan Pillay, Superintendent Process Control and Improvement, Mozal, Mozambique

"During the last ten years I attended quite some courses for the aluminium industry all over the world. Under all these courses the certificate and diploma courses organised by the Universities of Auckland and NSW offers the best in class training for supervisors, engineers and researchers."

Martin Iffert, CEO, Trimet, Germany

"Aluminium smelting technology course, I believe it's the strongest step I did in my career as a process engineer in the aluminium field."

Najeeba Aljabri, Senior Manager (Engineering and Asset Management), Emirates Aluminium, UAE

"The PGCertLMRT is a highly structured and informative course which brings together numerous industry experts to provide an intensive and industry focussed education. The in-smelter location provides a good level of both theory and practice. As a chemical engineer who is a supplier to the aluminium smelting industry, I have found no other education course that can match the quality and delivery of the PGCertLMRT. There is a lot of information provided and I highly recommend it to qualified applicants who seek intensive education in light metals manufacturing."

Michael Neate, Technical Manager of Advantec International

Outline

The Postgraduate Certificate in Light Metals Reduction Technology is made up of four courses:

- Electrochemical Engineering
- Aluminium Reduction Process Operations
- The Light Metals Industry
- Materials Performance and Selection for Light Metals Processing

Between them, these courses cover:

Fundamentals of aluminium production, alumina, cell design, operational practices, smelter control, anodes, environmental control and emissions, and casthouse operations.

Teaching/delivery methods

The programme will be run as three sections

Section 1 – Review and fundamentals assignments (extramural).

Section 2 – Onsite lectures, tutorials, site visits conducted over three weeks at a smelter (location varies – see website for latest details).

Section 3 – Advanced topics, projects/assignments tailored to specific technical issues of interest to the student/s, to be completed in approximately six weeks (extramural).



Class of 2012 in the potroom, Trimet, Germany.

Master of Engineering Studies in Light Metals Reduction Technology (MEngStLMRTech)

Why apply for this programme?

MEngStLMRTech is an advanced programme, designed to meet a need in the world-wide aluminium reduction industry for a university postgraduate qualification. This programme builds on from the postgraduate certificate programme to further develop the students' expertise in specialist technical areas and teaches the systematic approach in research and design processes, which will equip them with the skills to handle complex problems encountered in the industry. The programme is a combination of a two-week residential course delivered by academic lecturers and industry specialists, projects and extramural study.