

Master of Engineering (Materials and Nanotechnology)

- + Graduate Certificate
- + Graduate Diploma
- + Masters Degree

Experience. The Difference.



The School of Advanced Manufacturing and Mechanical Engineering offers exciting postgraduate programs which are aligned with its research strengths and tailored specifically for future leadership in engineering and new emerging industries.

Program overview

The Master of Engineering (Materials and Nanotechnology) program provides graduates with the knowledge and skills for a managerial career in engineering and technology. The program consists of a number of foundation courses in project management, engineering costing, quality management and engineering research methods. This is followed by specialist elective courses in the area of Materials and Nanotechnology. Students also have the opportunity to select other general elective courses to suit their career needs.

Graduates of this program will find a variety of potential career paths, such as management consultant, international engineering business adviser, technical leading engineer, business unit manager, or engineering development manager.

The program is offered in a nested structure where students can initially enrol in a Graduate Certificate of Engineering. If they wish, students can then extend their studies into a Graduate Diploma and then Master of Engineering.

The Master of Engineering (Materials and Nanotechnology) can also be taken in conjunction with selected streams of the LGPP Graduate Diploma in Professional Practice. This integrated package can be completed in two years of full-time study, leading to the award of the Graduate Diploma in Professional Practice and Master of Engineering.

Program information

The interdisciplinary specialisation of Materials and Nanotechnology focuses on the skills and knowledge of advanced topics in materials characterisation, biomaterials, design for plastics and advanced composites, nanomaterials and fabrication, and nanocomposites. The courses allow graduates to work across traditional engineering areas and gain business and management skills for their future careers. This unique program allows students from any engineering discipline to expand their technical expertise as well as develop expertise in areas outside of their current specialisation.

Entry requirements

Applicants would normally hold a degree in engineering, science, information technology, or an equivalent qualification. Applicants with relevant work experience who either hold a degree in a discipline such as business or management, or hold a lower qualification, will be assessed on a case by case basis.

Fees and applications

Domestic students are eligible for the Commonwealth Government's Higher Education Loan Program (HELP). Further information can be found at: www.unisa.edu.au/future/fees/commonwealthsupported.asp

Domestic students apply for this program online via SATAC's GradStart www.satac.edu.au/uniweb

International students apply for this program via UniSA's Apply Online portal www.unisa.edu.au/applyonline

Graduate Certificate in Engineering (Materials and Nanotechnology)

Program code: LGEN

Home campus: Mawson Lakes

Program duration: 0.5 year (full-time), 18 units

Graduate Diploma in Engineering (Materials and Nanotechnology)

Program code: LGEG

Home campus: Mawson Lakes

Program duration: 1 year (full-time), 36 units

Master of Engineering (Materials and Nanotechnology)

Program code: LMEN

Home campus: Mawson Lakes

Program duration: 1.5 years (full-time), 54 units

Part time options are available for all these degrees.

Fees and further information

Domestic applicants

Dr Sang-Heon Lee

Program Director

School of Advanced Manufacturing

and Mechanical Engineering

Mawson Lakes campus

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International applicants

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Email: international.office@unisa.edu.au

Website: www.unisa.edu.au/inthome

The University of South Australia reserves the right to alter, amend or delete any program, fee, course, admission requirement, mode of delivery or other arrangement without prior notice.

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Study schedule

The Program Director can assist students in choosing a particular program of study appropriate to individual backgrounds and professional interests. Further information about this program can be found at www.unisanet.unisa.edu.au/programs and select the relevant program code.

Course	Graduate Certificate	Graduate Diploma	Masters
Project Planning and Control G	●	●	●
Engineering Economic Analysis	●	●	●
Total Quality Management	●	●	●
Engineering Research Methods	●	●	●
Nanomaterials and Fabrication G	□	□	□
Nanocomposites and Practice G	□	□	□
Design for Plastics and Advanced Composites G	□	□	□
Biomaterials Engineering	□	□	□
Materials Characterisation G	□	□	□
Minor Thesis 1 (Eng)			□
Minor Thesis 2 (Eng)			□
Cases in Engineering Applications			□
Manufacturing Systems and Strategies	○	○	○
Artificial Intelligence in Manufacturing Engineering	○	○	○
Machine Vision Systems	○	○	○
Robotics and Automation	○	○	○
Design for Six Sigma	○	○	○
Technology Innovation and Principles of R&D Management	○	○	○
Management of Advanced Manufacturing Technology	○	○	○

- Foundation courses
- Specialist Elective courses
- General Elective courses

1. The program requires the completion of 54 units of study which can consist of either:
 - a) 10 x 4.5 unit courses and Cases in Engineering Applications (9 units) OR
 - b) 8 x 4.5 unit courses and Minor Thesis 1 [Eng] (9 units) and Minor Thesis 2 [Eng] (9 units) OR
 - c) 10 x 4.5 unit courses and Minor Thesis 1 [Eng] (9 units)
2. Minor Thesis 1 (Eng), Minor Thesis 2 (Eng) and Cases in Engineering Applications are 9 unit courses and all other courses are 4.5 units
3. Students must complete at least three x 4.5 unit foundation courses, one of which must be Engineering Research Methods
4. Students must complete at least four x 4.5 unit specialist courses relevant to the specialisation they are undertaking

This program prepares graduates to better meet the challenges of the workplace and contribute to shaping new directions in society.